

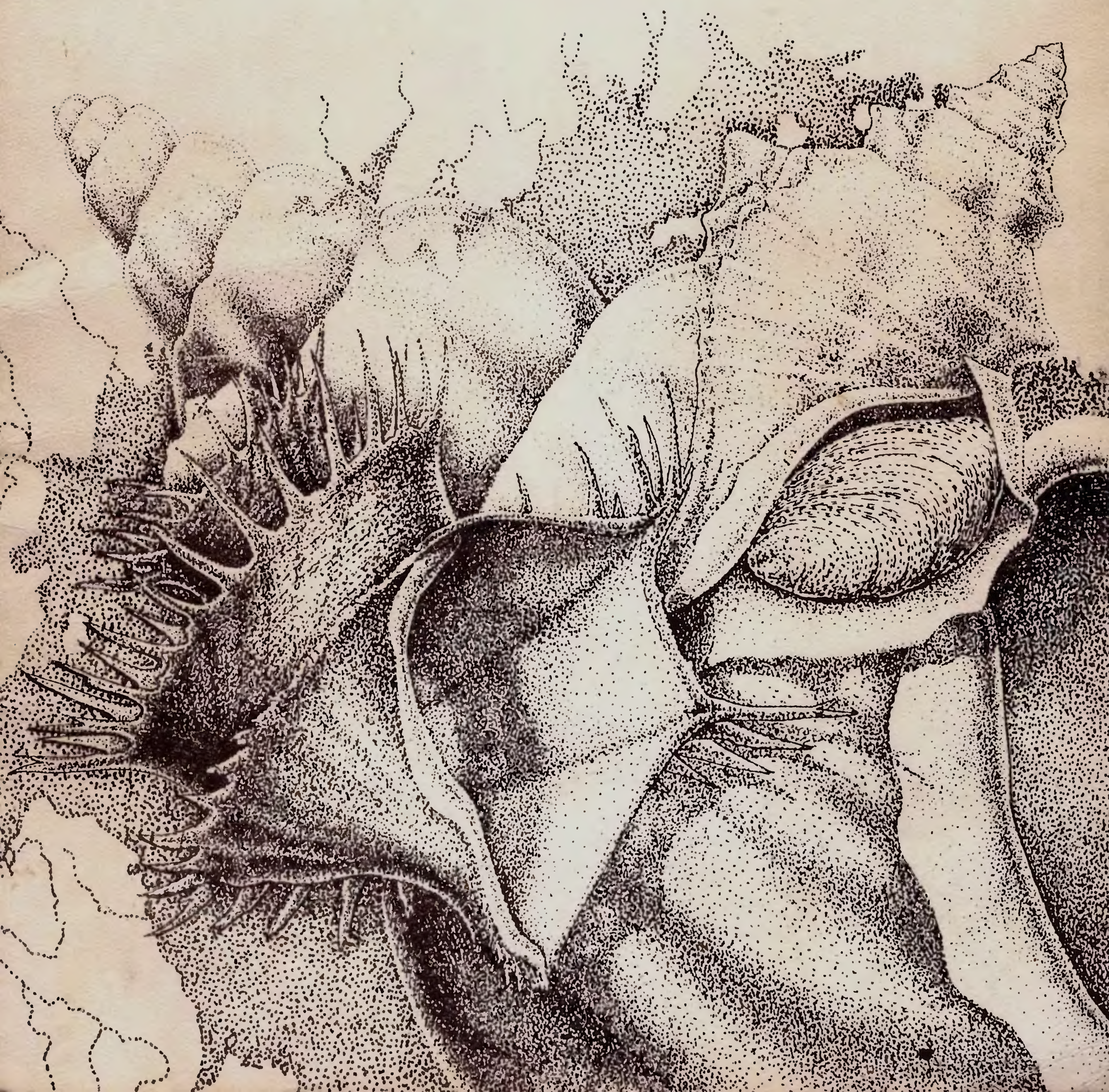
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БРЮХОНОГИЕ МОЛЛЮСКИ АРКТИЧЕСКОГО БАССЕЙНА



А.Н.ГОЛИКОВ



Shell-bearing gastropods of the Arctic

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Настоящая работа представляет собой определитель раковинных брюхоногих моллюсков Арктического океана, исключая некоторые теплолюбивые виды Норвежского шельфа, но не отмеченные восточнее и севернее. Установлено, что фауна раковинных гастропод Арктики включает в себя 199 видов, относящихся к 83 родам, 38 семействам, 10 отрядам и 5 подклассам. Описан новый подрод в роде *Littorina*—*Vivilittorina* subgen. nov. Приведены изображения, биогеографические и экологические характеристики для каждого из отмеченных видов, для большинства из них составлены карты географического распространения.

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INTRODUCTION

Shell-bearing gastropod molluscs play a substantial role in the Arctic Ocean floor biocoenosis, they are good indicators of sea currents and of the perennial ice regime and, being well preserved as fossils, they often appear to be guide forms for biostratigraphic and palaeologic modelling. That is why, the attention of many scientists was drawn to the study of shell-bearing gastropod molluscs. However, despite a very long history of study, from the point of view of the composition and ecology, these molluscs in the Polar seas have been studied by far inadequately. This is caused mostly by extremely difficult access to these seas covered by solid (not longer than 1.5-2 months) hydrologic summer, drift-ice masses are quite common in the seas.

Most of the shell-bearing gastropod mollusc species has been found in the relatively well studied the Barentz Sea, considerable portion of which is free from ice even in winter (168 species). Farther eastwards, the species number rapidly reduces: their number in the White Sea is 84, Kara Sea—120, Laptev Sea—112, East Siberian Sea—92, Chuckchee Sea—89.

By biogeographic composition of shell-bearing gastropod molluscs, in the Arctic Ocean prevail widely spread Atlantic boreal-arctic species, whereas only in the Norwegian Sea and western part of the Barentz Sea the number of Atlantic boreal species exceeds than of other biogeographic groups. The number of Pacific boreal-arctic species increases in the Arctic Ocean from the west east-wards, as well as in some areas of the East Siberian and Chuckchee Seas where they prevail over the wide spread Atlantic boreal-arctic and arctic species.

Biogeographic structure of shell-bearing gastropod molluscs species at different depth is conditioned by the position of water masses and their layers. In the surface Arctic water mass up to the depth of 120-200 m the eurybiontic widely spread boreal-arctic and Pacific boreal-arctic species prevail. In the intermediate Atlantic-Arctic water mass at the depth of 120-200 m to 800-1000 m the Atlantic boreal-arctic species prevail sharply over other species. Pseudoabyssal of the Arctic seas occupies by the abyssal Arctic water mass is inhabited almost exclusively by endemic Arctic species.

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Distribution of the shell-bearing gastropod molluscs in the Arctic Ocean

Used abbreviation:

1—Greenland Sea

2—Norwegian Sea

3—Barentz Sea

4—White Sea

5—Kara Sea

6—Laptev Sea

7—East Siberian Sea

8—Chuckchee Sea

9—Bofort Sea

[illegible]

taxon	1	2	3	4	5	6	7	8	9
Family Trochidae Rafinesque, 1815									
Subfamily Margaritinae Stoliczka, 1868									
Genus <i>Margarites</i> Gray, 1847									
<i>M. helicina</i> (Phipps, 1774)	*	*	*	*	*			*	
<i>M. vorticifera</i> (Dall, 1873)								*	
<i>M. groenlandica groenlandica</i> (Gmelin, 1790)	*	*	*	*					
<i>M. g. umbilicalis</i> (Brod.et Sow., 1829)	*	*	*	*	*	*		*	*
<i>M. olivacea</i> (Brown, 1827)	*	*	*	*	*	*	*		*
<i>M. gigantea</i> (Lcche, 1878)			*		*	*	*	*	*
<i>M. costalis</i> (Gould, 1841)	*	*	*	*	*	*	*	*	*
<i>M. vahlii</i> (Moeller, 1842)	*	*	*	*	*	*	*	*	*
<i>M. frigida</i> Dall, 1919								*	
Genus <i>Solariella</i> Wood, 1842									
<i>S. obscura</i> (Couthouy, 1838)	*	*	*	*	*	*	*	*	*
<i>S. varicosa</i> (Mighels et Adams, 1842)	*	*	*	*	*	*	*	*	*
Subfamily Trochinae Rafinesque, 1825									
Genus <i>Gibbula</i> Risso, 1826									
<i>G. tumida</i> Risso, 1826		*	*						
Subfamily Skeneidae Stoliczka, 1868									
Genus <i>Ganesa</i> Jeffreys, 1883									
<i>G. laevigata</i> (Friele, 1876)	*	*	*	*	*	*	*		
<i>G. basistriata</i> (Jeffreys, 1883)	*	*	*		*	*	*		
Family Calliostomatidae Thiele, 1924									
Genus <i>Calliostoma</i> Swainson, 1840									
<i>C.occidentalis</i> (Mighels et Adams, 1842)		*	*						
Superorder Cerithiimorpha Golikov et Starobogatov, 1975									
Order Cerithiiformes Golikov et Starobogatov, 1975									
Family Turritellidae Woodward, 1851									
Genus <i>Tachyrhynchus</i> Moerch, 1868									
<i>T. erosus</i> (Couthouy, 1838)	*	*	*		*	*	*	*	*
<i>T. reticulatus</i> (Mighels et Adams, 1892)	*	*	*		*	*		*	
<i>T. spitzbergensis</i> Golikov, 1986	*	*	*		*	*		*	
Family Turritellopsidae Starobogatov, 1983									
Genus <i>Turritellopsis</i> G.O.Sars, 1878									
<i>T. acicula</i> (Stimpson, 1851)	*	*	*	*	*	*	*		
Suborder Cerithiopsoidei H. et A.Adams, 1854									
Family Eumetulidae Golikov et Starobogatov, 1975									
Genus <i>Laskeya</i> Iredale, 1912									
<i>L. arctica</i> (Moerch, 1857)	*	*	*		*	*	*	*	

taxon	1	2	3	4	5	6	7	8	9
Family Cerithiellidae Golikov et Starobogatov, 1975									
Genus <i>Cerithiella</i> Verrill, 1882									
<i>C. metula</i> (Loven, 1846)		*	*						
<i>C. whiteavesii</i> (Verrill, 1880)		*	*		*	*	*		
Genus <i>Laiocochlis</i> Dunk. et Metz., 1874									
<i>L. granosa</i> (Wood, 1848)		*	*						
Suborder Littorinoidei Pcelintsev, 1962									
Family Lacunidae Gray, 1857									
Genus <i>Epheria</i> Leach in Gray, 1847									
<i>E. vincta</i> (Montagu, 1803)	*	*	*	*					
<i>E. crassior</i> (Montagu, 1803)	*	*	*	*	*				
Genus <i>Lacuna</i> Turton, 1827									
<i>L. neritoidea</i> Gould, 1840		*	*	*					
Family Littorinidae Gray, 1840									
Genus <i>Littorina</i> Ferussac, 1821									
<i>L. (L.) littorea</i> (L., 1758)		*	*	*					
Subgenus <i>Neritrema</i> Recluz, 1869									
<i>L. (N.) obtusata</i> (L., 1758)		*	*	*					
<i>L. (N.) fabalis</i> Turton, 1825		*	*	*					
<i>L. (N.) jugosa</i> (Montagu, 1803)		*	*						
Subgenus <i>Vivilittorina</i> Gol., subgen. nov									
<i>L. (V.) saxatilis</i> (Olivi, 1792)	*	*	*	*					
Family Rissoidae Gray, 1847									
Genus <i>Turboella</i> Leach in Gray, 1847									
<i>T. interrupta</i> (J.Adams, 1798)									
Genus <i>Frigidoalvania</i> Waren, 1974									
<i>F. jan-mayeni</i> (Friele, 1878)	*	*	*	*	*	*	*		
<i>F. cruenta</i> (Odhner, 1915)	*	*	*		*	*	*		
<i>F. scrobiculata</i> (Moeller, 1842)	*	*	*		*	*	*		
Genus <i>Punctulum</i> Jeffreys, 1884									
<i>P. wyville-thomsoni</i> (Jeff. in Fr., 1877)	*	*	*	*	*	*	*		
<i>P. minutum</i> Golikov et Fedjakov, 1987			*	*	*				
Family Onobidae Golikov et Starobogatov, 1975									
Genus <i>Onoba</i> H. et A.Adams, 1852									
<i>O. aculeus</i> (Gould, 1841)	*	*	*						
<i>O. karica</i> Golikov, 1986				*					
<i>O. striata</i> (J.Adams, 1795)		*	*						
<i>O. castanea</i> (Moeller, 1842)	*	*	*						
<i>O. jeffreysii</i> (Waller, 1864)		*	*	*					
<i>O. verrilli</i> (Friele, 1886)	*	*	*	*					
<i>O. (Galeodina) moerchi</i> (Collin, 1887)	*	*	*		*	*	*	*	*
Genus <i>Setia</i> H. et A. Adams, 1852									
<i>S. tumidula</i> (G.O.Sars, 1878)		*	*						
<i>S. latior</i> (Mighels et A.Adams, 1842)		*	*	*					

taxon	1	2	3	4	5	6	7	8	9
Genus <i>Boreocingula</i> Golikov et Kussakin, 1974									
<i>B. martini</i> (Dall, 1886)							*	*	*
Family Hydrobiidae Troschel, 1857									
Genus <i>Hydrobia</i> Hartmann, 1821									
<i>H. ulvae</i> (Pennant, 1777)		*	*	*					
Family Rissoellidae Gray, 1850									
Genus <i>Jeffreysina</i> Thiele, 1925									
<i>J. globularis</i> (Jeffreys, 1853)		*	*	*					
Family Skeneopsidae Iredale, 1915									
Genus <i>Skeneopsis</i> Iredale, 1915									
<i>S. planorbis</i> (Fabricius, 1780)		*	*	*					
Suborder Calyptraeoidei Ferussac, 1822									
Family Trichotropidae Gray, 1850									
Genus <i>Trichotropis</i> Btod. et Sow., 1829									
<i>T. bicarinata</i> (Sowerby, 1825)	*	*	*					*	*
Genus <i>Ariadnaria</i> Habe, 1961									
<i>A. conica</i> (Moeller, 1842)	*	*	*		*	*			
<i>A. borealis</i> (Brod. et Sow., 1829)	*	*	*	*	*	*	*	*	*
Genus <i>Iphinoe</i> H. et A.Adams, 1854									
<i>I. coronata</i> (Gould, 1861)							*	*	
<i>I. kroyeri</i> (Philippi, 1849)			*		*	*	*	*	
<i>I. solida</i> (Aurivillius, 1885)			*		*	*	*	*	
Genus <i>Torellia</i> Loven in Jeffreys, 1867									
<i>T. vestita</i> Loven in Jeffreys, 1867		*	*						
Family Velutinidae Gray, 1842									
Genus <i>Capulacmaea</i> M.Sars, 1859									
<i>C. radiata</i> M.Sars, 1859	*	*	*		*	*			
Genus <i>Limneria</i> H. et A.Adams, 1853									
<i>L. undata</i> (Brown, 1838)	*	*	*	*	*	*	*	*	*
<i>L. insculpta</i> (Odhner, 1913)			*		*	*			
Genus <i>Ciliatovelutina</i> Golikov et Gulbin, 1991									
<i>C. lanigera</i> (Moeller, 1842)	*	*	*		*				
Genus <i>Velutina</i> Fleming, 1821									
<i>V. velutina</i> (Mueller, 1776)	*	*	*	*	*	*	*	*	*
<i>V. schneideri</i> Friele, 1886		*	*		*	*	*		
Genus <i>Velutella</i> Gray, 1847									
<i>V. plicatilis</i> (Mueller, 1776)	*	*	*	*	*	*	*	*	
Genus <i>Marsenina</i> Gray, 1850									
<i>M. glabra</i> (Couthouy, 1838)	*	*	*	*	*	*		*	*
Genus <i>Onchidiopsis</i> Bergh, 1853									
<i>O. groenlandica</i> Bergh, 1853	*	*	*		*	*	*	*	
<i>O. glacialis</i> (M.Sars, 1851)	*	*	*		*	*	*		
<i>O. platissima</i> Odhner, 1913	*	*	*		*	*		*	

[illegible]

taxon	1	2	3	4	5	6	7	8	9
<i>N. amianta</i> (Dall, 1889)								*	
Genus <i>Colus</i> Bolten, 1798									
<i>C. (C.) islandicus</i> (Mohr, 1786)	*	*	*		*	*		*	
<i>C. (C.) sabini</i> (Gray, 1824)	*	*	*		*	*	*	*	*
<i>C. (C.) holboelli</i> (Moeller, 1842)	*	*	*		*				
<i>C. (C.) turgidulus</i> (Jeffreys, 1877)	*	*	*		*	*	*		
<i>C. (C.) glaber</i> (Verkr. in Kobelt, 1876)		*	*						
<i>C. (C.) pubescens</i> (Verrill, 1882)	*	*	*		*	*	*	*	*
Subgenus <i>Limatofusus</i> Dall, 1918									
<i>C. (L.) pulcius</i> Dall, 1919								*	
Subgenus <i>Aulacofusus</i> Dall, 1919									
<i>C. (A.) brevicauda</i> (Deshayes, 1832)			*		*	*	*	*	
<i>C. (A.) esychus</i> (Dall, 1907)								*	
<i>C. (A.) roseus</i> (Dall, 1877)						*	*	*	*
Subgenus <i>Plicifusus</i> Dall, 1902									
<i>C. (P.) latericeus</i> (Moeller, 1842)		*	*	*	*	*	*		
<i>C. (P.) kroyeri</i> (Moeller, 1842)	*	*	*						
Subgenus <i>Latisipho</i> Dall, 1891									
<i>C. (L.) hypolispus</i> Dall, 1891								*	
Subgenus <i>Anomalosipho</i> Dautzenberg et Fischer, 1912									
<i>C. (A.) altus</i> (S.Wood, 1848)	*	*	*		*				
<i>C. (A.) conulus</i> (Aurivillius, 1885)							*	*	
Genus <i>Turrisipho</i> Dautz. et Fisch., 1912									
<i>T. lachesis</i> (Moerch, 1869)	*	*	*		*				
<i>T. voeringi</i> Bouchet et Waren, 1985	*	*	*		*	*			
<i>T. dalli</i> (Friele, 1881)	*	*	*		*				
<i>T. fenestratus</i> (Turton, 1834)		*	*						
<i>T. moebii</i> (Dunker et Metzger, 1874)		*	*						
Genus <i>Mohnia</i> Friele in Kobelt, 1878									
<i>M. (M.) mohni</i> (Friele, 1877)	*	*	*		*	*	*		
<i>M. (M.) parva</i> (Verrill et Smith, 1882)	*								
Subgenus <i>Tacita</i> Lus, 1971									
<i>M. (T.) danielsseni</i> (Friele, 1879)	*	*	*		*	*			
<i>M. (T.) krampi</i> (Thorson, 1951)	*								
Subfamily <i>Buccininae</i> Rafinesque, 1815									
Genus <i>Buccinum</i> Linnaeus, 1758									
<i>B. glaciale</i> L., 1761	*	*	*	*	*		*	*	*
<i>B. angulosum</i> Gray, 1839	*	*	*		*	*	*	*	*
<i>B. maltzani</i> Pfeffer, 1886	*	*	*	*	*	*	*	*	*
<i>B. ciliatum ciliatum</i> (Fabricius, 1780)		*	*	*				*	*
<i>B. ciliatum sericatum</i> Reeve, 1845	*	*	*	*	*	*	*	*	*
<i>B. micropoma</i> Jensen in Thorson, 1944	*		*		*	*	*		
<i>B. undatum</i> L., 1758	*	*	*	*					
<i>B. fragile</i> Verkrusen in G.O.Sars, 1878	*	*	*		*				
<i>B. physematum</i> Dall, 1919						*		*	

taxon	1	2	3	4	5	6	7	8	9
Genus <i>Boreoscala</i> Kobelt, 1907									
<i>B. groenlandica</i> (Moeller, 1842)	*	*	*	*	*	*	*	*	*
Order Pyramidelliformes Golikov et Starobogatov, 1975									
Family Turbonillidae Locard, 1892									
Genus <i>Menestho</i> Moeller, 1842									
<i>M. truncatula</i> Odhner, 1915			*	*	*	*	*	*	
Genus <i>Liostomia</i> G.O.Sars, 1878									
<i>L. eburnea</i> (Stimpson, 1851)	*	*	*		*	*	*	*	
Genus <i>Amaura</i> Moeller, 1842									
<i>A. candida</i> Moeller, 1842	*	*	*	*	*	*	*	*	
Order Melanelliformes Minichev et Starobogatov, 1979									
Family Aclididae Loven, 1846									
Genus <i>Hemiaclis</i> G.O.Sars, 1878									
<i>H. glabra</i> G.O.Sars, 1878		*	*	*					
Subclass Opisthobranchia Milne-Edwards, 1848									
Order Acteoniiiformes Minichev, 1967									
Family Acteonidae Fischer, 1887									
Genus <i>Neacteonina</i> Thiele, 1912									
<i>N. umbilicalis</i> Golikov et Fedjakov, 1987				*					
Order Bulliformes Ferussac, 1822									
Family Omalogyridae G.O.Sars, 1878									
Genus <i>Omalogyra</i> Jeffreys, 1860									
<i>O. atomis</i> (Philippi, 1841)	*	*	*	*					
Family Scaphandridae G.O.Sars, 1878									
Genus <i>Scaphander</i> Montfort, 1810									
<i>S. punctostriatus</i> (Mighels, 1841)	*	*	*	*					
Genus <i>Cylichna</i> Loven, 1846									
<i>C. occulta</i> (Mighels, 1841)	*	*	*	*	*	*	*	*	
<i>C. alba</i> (Brown, 1827)	*	*	*	*	*	*	*	*	
Family Retusidae Thiele, 1926									
Genus <i>Retusa</i> Brown, 1827									
<i>R. pertenuis</i> (Mighels, 1849)	*	*	*	*	*	*	*		
Family Diaphanidae Thiele, 1931									
Genus <i>Diaphana</i> Brown, 1837									
<i>D. minuta</i> (Brown in Smith, 1839)	*	*	*	*	*	*			
Family Philinidae Gray, 1850									
Genus <i>Philine</i> Ascanius, 1772									
<i>Ph. lima</i> (Brown, 1827)	*	*	*	*	*	*	*		
<i>Ph. polaris</i> Aurivillius, 1887			*			*	*		
<i>Ph. quadrata</i> (Wood, 1839)	*	*	*		*	*	*		
<i>Ph. finmarchica</i> G.O.Sars, 1878	*	*	*		*	*	*		

Class GASTROPODA Cuvier, 1797

Subclass CYCLOBRANCHIA
Cuvier, 1817Order PATELLIFORMES
Rafinesque, 1815Family TECTURIDAE Gray, 1847
(=ACMAEIDAE Carpenter, 1856)Subfamily PATELLOIDINAE
Ihering, 1876Genus *TESTUDINALIA* Moskalev, 1966*Testudinalia tessellata* (Mueller, 1776)

Fig. 66; 118 A-B

Patella tessellata Mueller, 1776: 237;*Acmaea testudinalis* — Filatova, Zatsepin, 1948: 371, Pl. 95, f. 3, 3a; Macpherson, 1971: 13-15, Pl. 1, f. 6, map 5;*Testudinalia tessellata* — Moskalev, 1964: 1221; Golikov, 1987: 55-56, f. 10.

H 12.7 mm, L 30.2 mm, D 25 mm (off Eastern Murman)

DISTRIBUTION. Atlantic boreal species, found from Long Island Strait (off Northern America) and southern England (off Europe) to western Greenland, northern Ireland and Novaya Zemlya.**ECOLOGY.** The species lives from the middle littoral zone to 20 m (few specimens have been found down to 280 m), on the stones, rock and shell-debris substrates, at temperature from +7°C to +18°C (in the south of the area) and from the negative to +6°C (in the north of the area) and at salinities from 24‰ to normal ocean salinity. Its diet consists of coralline and green algae and diatoms. Young animals live mostly at the sublittoral, adult ones at littoral (Matveeva, 1974). The development of larvae from the moment of fecundation through the plankton stage to the formation of young animals at 10°C takes 13-15 days.

Subfamily TECTURINAE Gray, 1847

Genus *TECTURA* Gray, 1847*Tectura virginea* (Mueller, 1776)

Fig. 1

Patella virginea Mueller, 1776: 237;*Acmaea virginea* — Forbes, Hanley, 1850: 437, Pl. LXI, f. 1.2;*Tectura virginea* — Golikov, 1987: 56-57, f. 11.

L 16.5 mm (off Iceland)

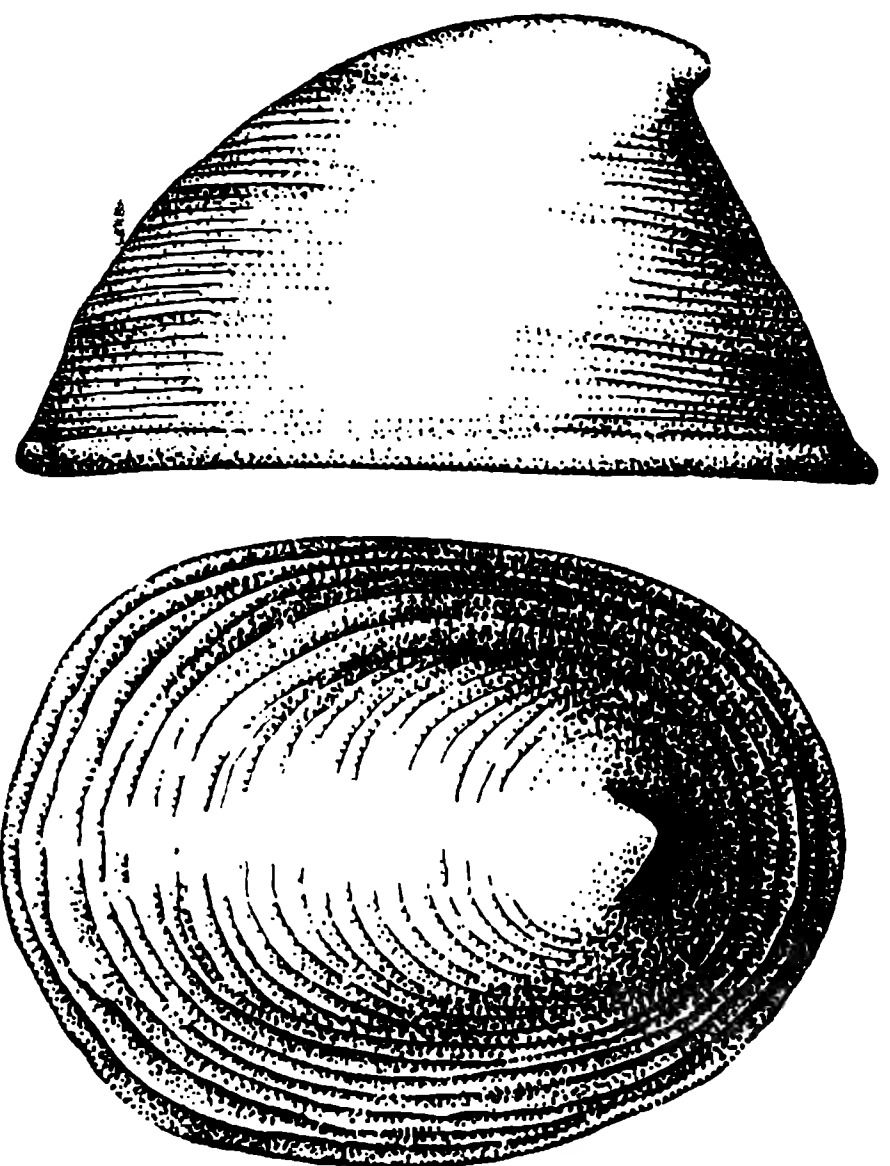
FIG. 1. *Tectura virginea* (Mueller, 1776).**DISTRIBUTION.** Atlantic European widely spread species, found from Saint Helena Island and the Azores to Iceland and the south-western part of the Barents Sea.**ECOLOGY.** The species lives at depths from 0 (in West Murman) to 1225 m (off Saint Helena) on the rocks and stony substrates, at temperature from 0-5°C (in winter) to 8-9°C (in summer) and at salinity of 30-35‰. The eggs planktonic, larva freely floating.Genus *ERGINUS* Jeffreys, 1877*Erginus rubella* (Fabricius, 1780)

Fig. 2; 66

Patella rubella Fabricius, 1780: 386;*Tectura rubella* — G.O. Sars, 121, Tab. 8, f. 5 a,b;*Acmaea rubella* — Filatova, Zatsepin, 1948: 371, Pl. 95, f. 4;*Erginus rubella* — Golikov, 1987: 57, f. 12.

H 3.9 mm, L 7.1 mm, D 5.5 mm (from the Barents Sea)

DISTRIBUTION. Upper-boreal-arctic, almost circumpolar species, found off Norway, Greenland, Newfoundland, in the Bering Sea, off Alaska and Middle Kurile Islands.**ECOLOGY.** The species lives at depth from 4 m (off Eastern Greenland) to 565 m (off north-west Norway) on the sand-silty with stones substrates, at temperature from -0.4°C — +1.7°C (in the north of the area) to +5°C (in summer in the south of the area) and at salinity of 30-34‰. Ovo-viviparous

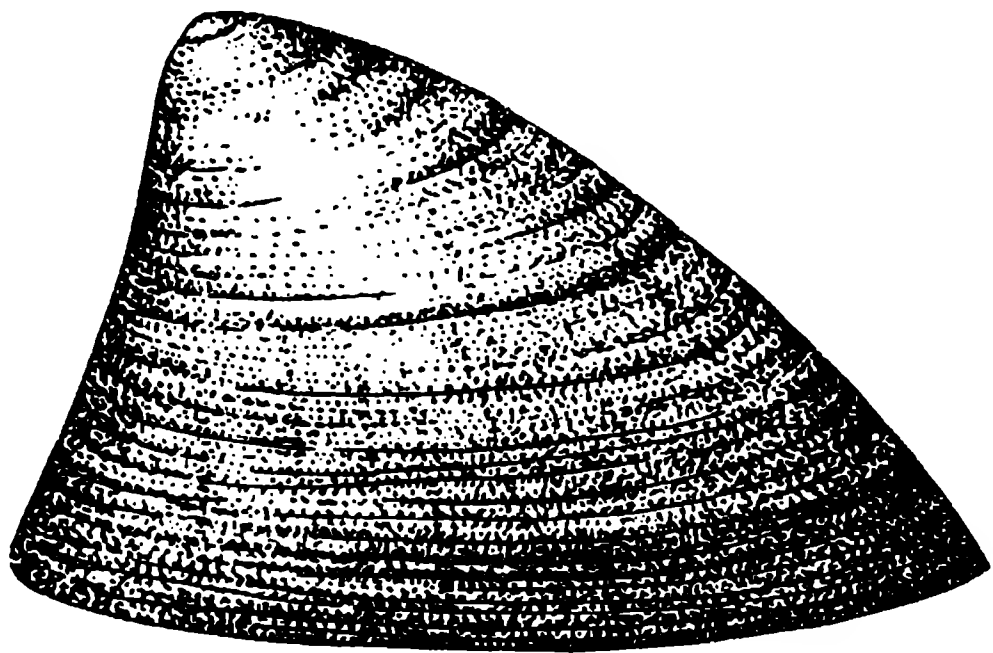


FIG. 2. *Erginus rubella* (Fabricius, 1780)

species. During the reproduction periods females bear 10-30 embryos. Young molluscs are kept in the dorsal part of the visceral sac.

Family **PATELLIDAE**
Rafinesque, 1815

Genus *HÉLCION* Montfort, 1810



FIG. 3. *Helcion (Ansates) pellucida* (Linnaeus, 1758)

Helcion (Ansates) pellucida
(Linnaeus, 1758)

Fig. 3

Patella pellucida Linnaeus, 1758: 1260; Forbes, Hanley, 1850: 429-433, Pl. 61, f.3, 4;

Nacella pellucida— J.O. Sars, 1878: 119;

Helcion (Ansates) pellucida— Golikov, Kusakin, 1978: 43-44, f. 25.

H 8 mm, L 20 mm, D 15 mm (off Western Murman)

DISTRIBUTION. Atlantic European subtropical-boreal species, from the Portugal to Western Murman.

ECOLOGY. The species lives at the lower littoral and at the upper sublittoral zones, among algae on solid substrates. Pelagic larva stays comparatively long in the plankton.

Family **LEPETIDAE** Dall, 1869

Genus *LEPETA* Gray, 1847

Lepeta coeca (Mueller, 1776)

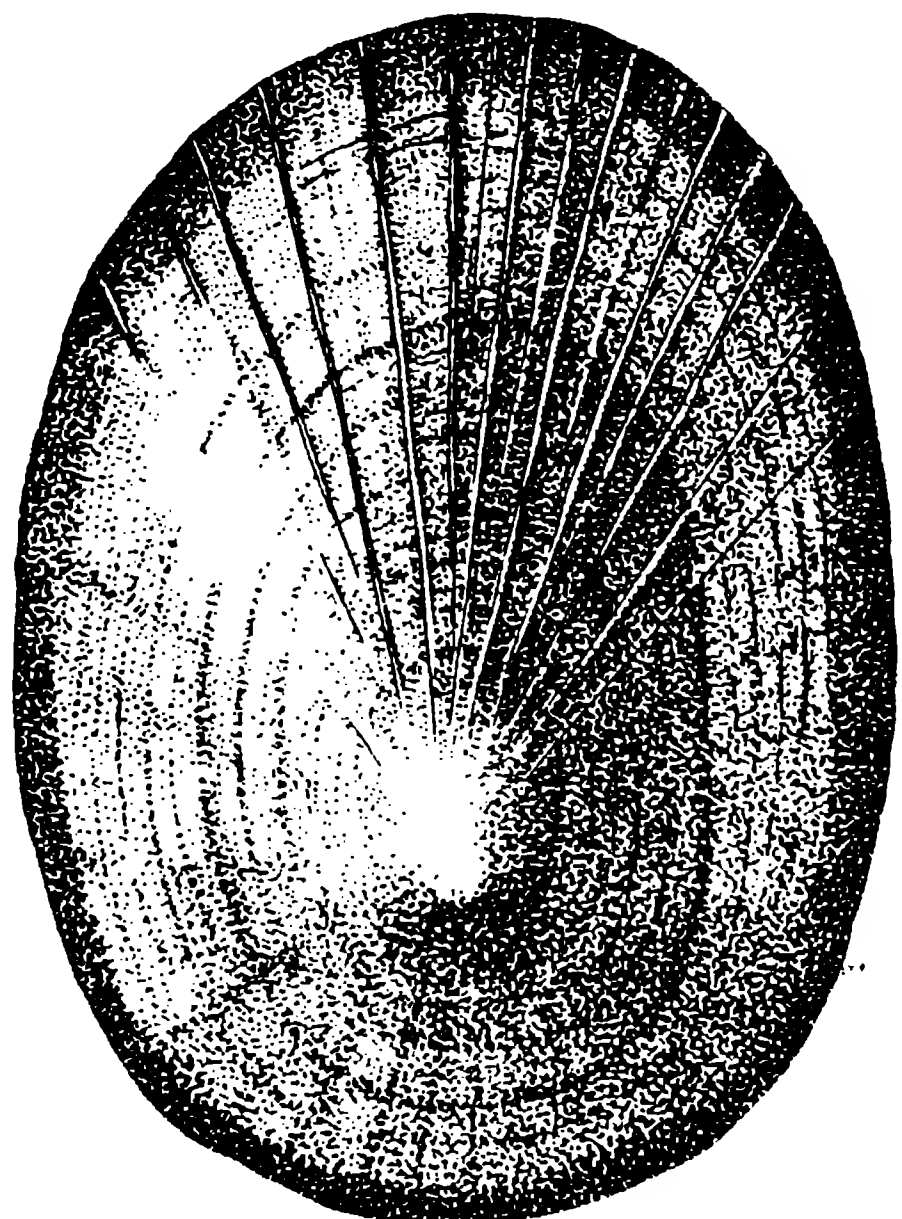
Fig. 4; 66

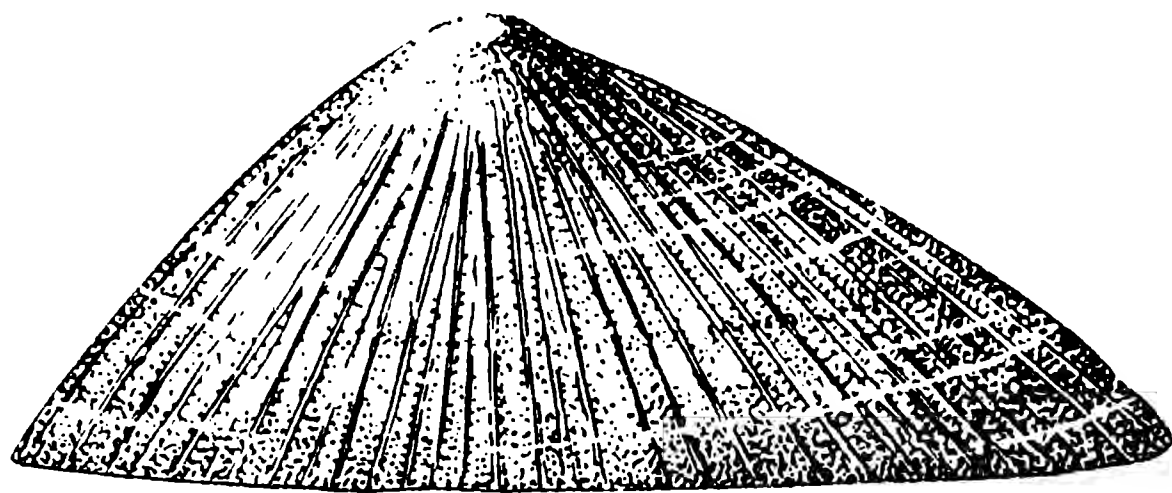
Patella coeca Mueller, 1776: 237;

Lepeta coeca— Filatova, Zatsepin, 1948: 372, Pl. 95, f 2, 2b; Macpherson, 1971: 15-16, p. 1, f. 7, map 7; Matveeva, 1974: 81-84, f. 3; Golikov, 1987: 58, f. 13.

H 6.2 mm, L 18.5 mm, D 13.6 mm (from the White Sea)

DISTRIBUTION. Boreal-arctic circumpolar species, common in upper-boreal waters of the Atlantic and the Pacific Oceans.



FIG. 4. *Lepeta coeca* (Mueller, 1776).

ECOLOGY. The species lives at depths from 10-12 m (in the White Sea in winter) to 1300 m (in the Northern Atlantic), on the silty-sandy or silty with stones substrates, sometimes on the layers of red algae, at temperatures from negative (in the north of the area) to 0.1-12°C (in the south of the area) and at salinity 26-35‰.

Genus *JOTHIA* Gray, 1850

Jothia fulva (Mueller, 1776)

Fig. 118 C-D

Patella fulva Mueller, 1776: 237;

Plicidium fulvum— Forbes, Hanley, 1850: 441-442, Pl. I.XII, f. 6, 7.

H 5 mm, L 10.5 mm, D 6.5 mm (off Spitzbergen)

DISTRIBUTION. Atlantic European subtropical-boreal species, found from Azores to the Barents Sea.

ECOLOGY. The species lives at depths from 0 (off Norway) to 1883 m (off Azores), on the silty-stony substrates, at temperatures from 0-3°C (in winter) to 8-9°C (in summer) and at salinity 30-35‰.

Subclass **SCUTIBRANCHIA**

Cuvier, 1817

Order **PLEUROTOMARIIFORMES**

Cox et Knight, 1960

Family **SCISSURELLIDAE**

Gray, 1847

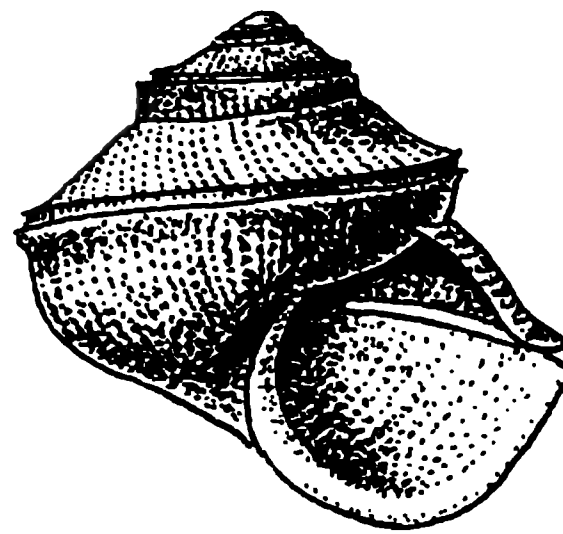
Genus *ANATOMA* Woodward, 1859

Anatoma crispata (Fleming, 1832)

Fig. 5; 67; 118 E

Scissurella crispata Fleming, 1832: 385, Pl. 6, f. 3;

Scissurella crispata— G.O. Sars, 1878: 126, Tab. 8, f. 7a: Thiele, 1928: 581; Macpherson, 1871: 10, Pl. II, f. 2, map 4.

FIG. 5. *Anatoma crispata* (Fleming, 1832).

D 3.5 mm (off Iturup Island)

DISTRIBUTION. Subtropic-arctic almost circumpolar species, from England and Azores (in the Atlantic); Middle Kurile Island (in the Pacific).

ECOLOGY. The species lives at depth from 8 m (off Norway) to 2020 m (off France) on the silty and mixed substrates, at temperature from the negative to 3-10°C and at salinity 32-35‰.

Family **FISSURELLIDAE** Fleming, 1832

Genus *PUNCTURELLA* Lower, 1827

Puncturella noachina (Linne, 1771)

Fig. 6; 68

Patella noachina Linne, 1771: 551;

Puncturella noachina— G.O. Sars, 1878: 121-125, Tab III, f. 3; Filatova, Zatsepin, 1948: 368, Pl. 95, f. 1a, b; Golikov, 1987: 60, f. 14.

D 11.2 mm (from the Norwegian Sea)

DISTRIBUTION. Boreal-arctic species, reaching high latitudes only in the Atlantic sector of the Arctic Ocean, from Portugal and Cape Cod in the Northern Atlantic to the Kara Sea and from Northern Japan and Vancouver to Cape Barrow in the Pacific.

ECOLOGY. The species lives at depths from 10 m (White Sea) to 1100 m (off Portugal), on the silty-shell-debris and silty-stones substrates, at temperatures from negative (in the north of the area) to 0-+6°C (in the south of the area) and at salinity 26-35‰.

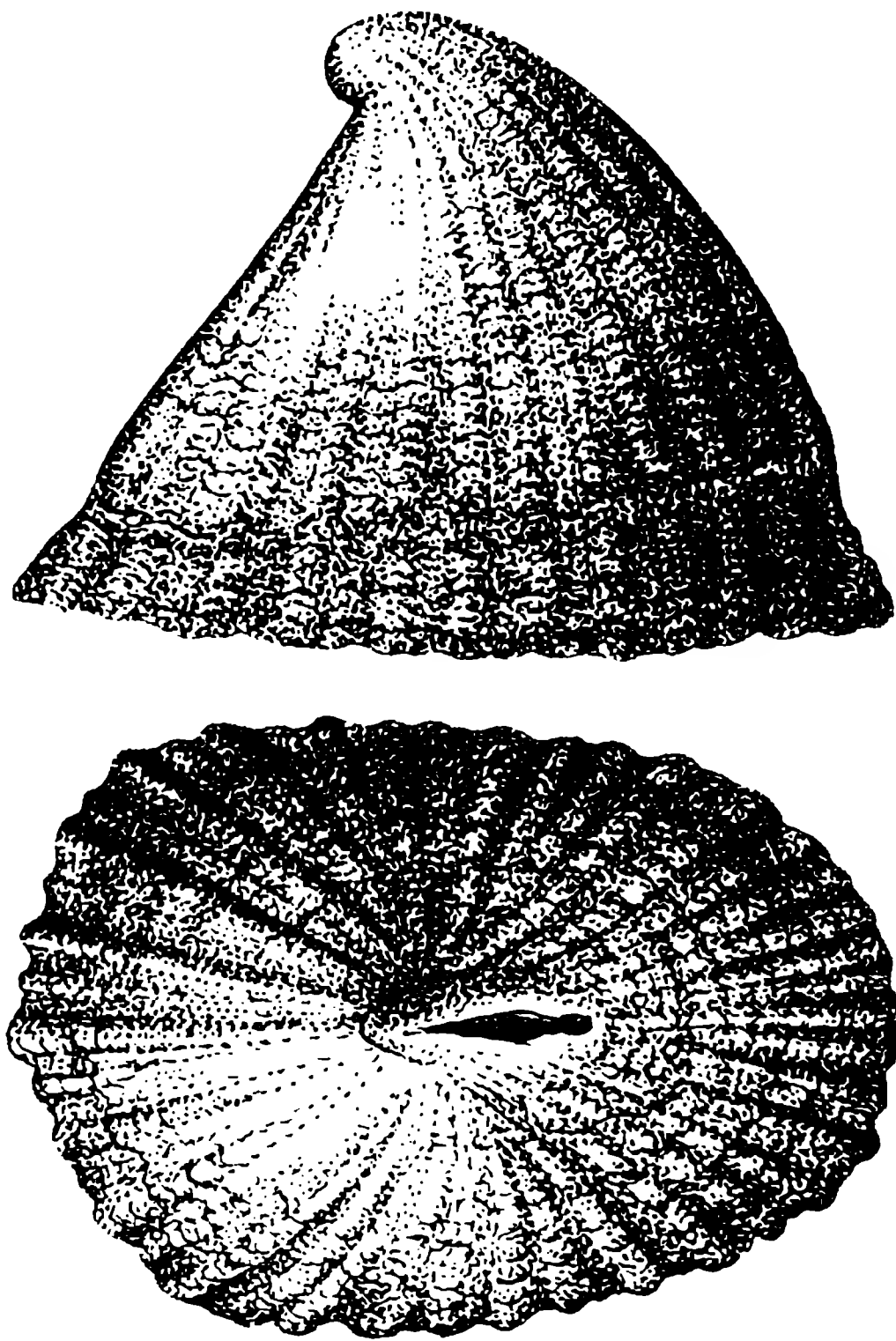


FIG. 6. *Puncturella noachina* (Linne, 1771)

Subclass **PECTINIBRANCHIA**
Blainville, 1814

Order **TROCHIFORMES**
Cox et Knight, 1960

Family **LIOTIIDAE** Gray, 1850

Genus *MOELLERIA* Jeffreys, 1865

Moelleria costulata (Moeller, 1842)

Fig. 7; 67

Margarita costulata Moeller, 1848: 83;

Moelleria costulata— H.O. Sars, 1878: 127-128, Tab. 9, f. 8; Macpherson, 1971: 29, Pl. II, f. 5, map 12, Golikov, 1987: 62, 63, f. 15.

H 2.3 mm, D 2.5 mm (from the Barents and White Seas)

DISTRIBUTION. Atlantic boreal-arctic species, from the Atlantic sector of the Arctic to Portugal.

ECOLOGY. The species lives at depths from 7 m (in the north of the area) to 1943 m (in the south of the area) on the sand-silty or silty substrates, often with shell-debris and stone, at temperatures from negative (in the north of the area) to +3°C (in the south of the area) and at salinity 24-35‰.

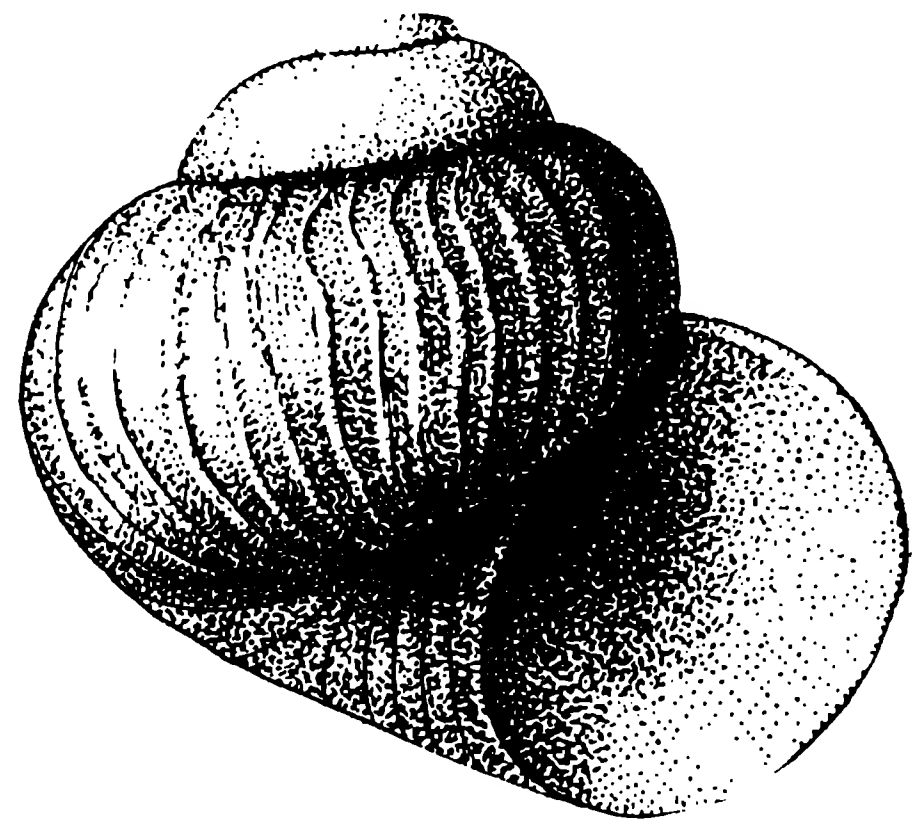


FIG. 7. *Moelleria costulata* (Moeller, 1842)

Family **TROCHIDAE** Rafinesque, 1895

Subfamily **MARGARITINAE**
Stolicka, 1868

Genus *MARGARITES* Gray, 1847

Margarites vorticifera (Dall, 1875)

Fig. 68; 118 F

Margarita vorticifera Dall, 1873, 59, Pl. II, f. 4a, b;

Margarita vorticifera— Galkin, 1955: 79-80, f. 20, 21, 23.

H 13.2 mm, D 19.5 mm (from the Bering Strait)

DISTRIBUTION. American-asian boreal-arctic species, from the Chuckchee, Bering, Okhotsk and Japan Seas.

ECOLOGY. The species lives at depths from 5 to 120 m on the stony and pebble substrates, at temperatures from negative to +3-16.2°C and at salinity 31.56-36.06‰.

Margarites groenlandicus groenlandicus
(Gmelin, 1790)

Fig. 8; 68

Trochus groenlandicus Gmelin, 1790: 3574;

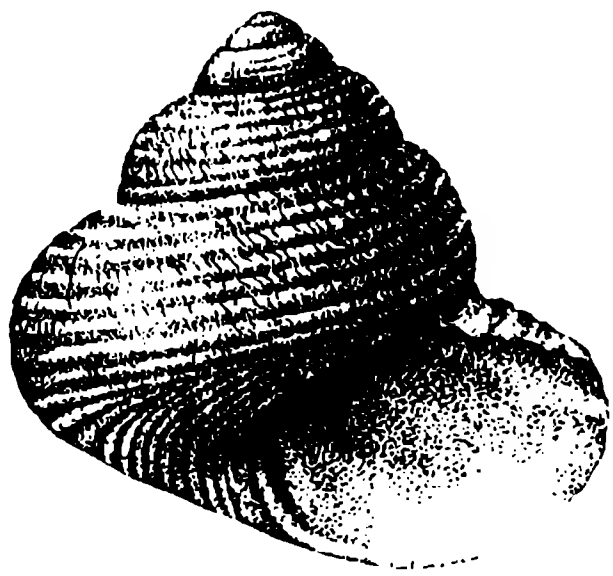
Margarites groenlandica groenlandica— Galkin, 1955: 80-82, f. 22-24;

Margarites groenlandicus— Macpherson, 1971: 18-19, Pl. 1, fig. 10, map. 9; Golikov, 1987: 64-69, f. 16.

H 10.4 mm, D 10.8 mm (from the White Sea)

DISTRIBUTION. Amphiboreal upper-boreal subspecies of the boreal-arctic species, from the Massachusetts Bay and South England to Greenland, Kara and Bering Seas and Kurile Islands.

ECOLOGY. The subspecies lives from the littoral zone to depth of 512 m, mostly on the algae and

FIG. 8. *Margarites groenlandicus groenlandicus* (Gmelin, 1790)

stones and, sometimes, silty substrates, at temperatures from -1.7 – $+4^{\circ}\text{C}$ (in winter) to $+4$ – 18°C (in summer) and at salinity 24–35‰.

Margarites groenlandicus umbilicalis
(Broderip et Sowerby, 1829)

Fig. 68; 118 I

Margarita umbilicalis Broderip et Sowerby, 1829: 372;

Margarites groenlandicus umbilicalis— Filatova, Zatsepin, 1948: 369; Pl. 90, f. 10; Galkin 1955: 82–83, f. 22, 23, 25; Golikov, 1987: 65, f. 16 bis;

Margarites umbilicalis— Macpherson, 1971: 23–24, Pl. I f. 14–16.

H 16.8 mm, D 20.5 mm (from the Barents Sea)

DISTRIBUTION. Arctic subspecies of boreal-arctic species, found in all seas of the Arctic, except the East Siberian Sea.

ECOLOGY. The subspecies lives at depths from 3 to 365 m, on the algae and silty-stony substrates, at temperatures from negative to $+2^{\circ}\text{C}$ and at salinity 26–35‰.

Margarites costalis (Gould, 1841)

Fig. 69; 118 J

Trochus costalis Gould, 1841: 252;

Margarites cinereus— Filatova, Zatsepin, 1948: 369, Pl. 96, f. 2;

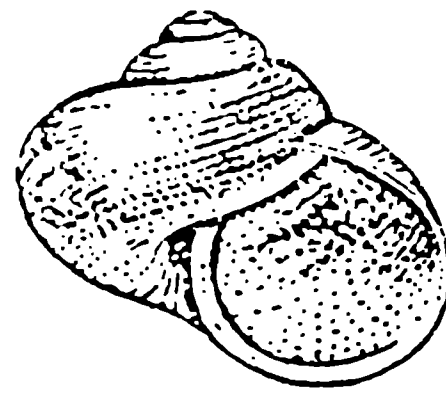
Margarites striata striata, *M. striata cinerea*— Galkin, 1955: 828–92, f. 35–40;

Margarites costalis— Macpherson, 1971: 16–18, f. 9, map 8; Golikov, 1987: 65–66, f. 17

H 29.1 mm, D 27.3 mm

DISTRIBUTION. Boreal-arctic circumpolar species, found from the New England and Norway in the Atlantic and from the Japan Sea to the Bering Sea in the Pacific.

ECOLOGY. The species lives at depths from 6 to 365 m, among algae and on the silty substrates with stones and shell-debris, at temperatures from negative (in the north of the area) to $+0.6$ – 6°C (in the south of the area) and at salinity 26–34.5‰.

FIG. 9. *Margarites gigantea* (Leche, 1878).

Margarites gigantea (Leche, 1878)

Fig. 9; 69

Margarites argentata var. *gigantea* Leche, 1878: 43, Tab. II, f. IIa–c;

Margarites gigantea— Galkin, 1955: 83–85, f. 26–29.

H 14.5 mm, D 13.8 mm

DISTRIBUTION. Pacific boreal-arctic species, found from the Japan, Okhotsk, and Bering seas and all seas of the Arctic (except the White and the Norwegian seas).

ECOLOGY. The species lives at depths from 6 to 189 m, on the silty substrates, at temperatures from negative (in the north of the area, winter) to $+10$ – 11°C (in the south of the area) and at salinity of 26.2–34.5‰.

Margarites olivaceus (Brown, 1827)

Fig. 10; 69

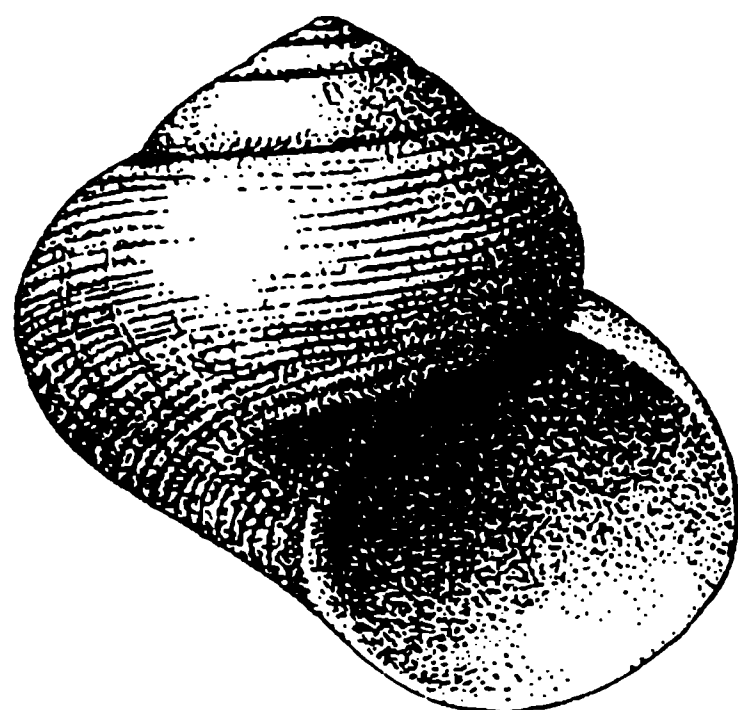
Turbo olivacea Brown, 1827: Pl. 40, f. 30, 31;

Margarites olivaceus— Filatova, Zatsepin, 1948: 30–31; Macpherson, 1971: 21–23, Pl. I, f. 12–13, map 11; Golikov, 1987: 67, f. 19.

H 7.4 mm, D 6.5 mm (from the Kara Sea)

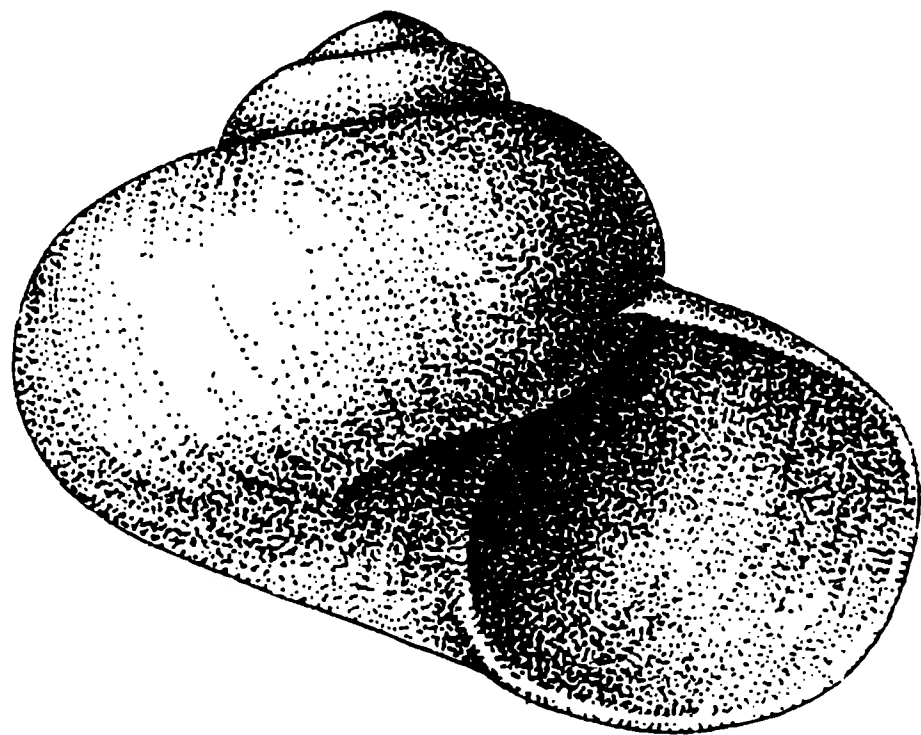
DISTRIBUTION. Atlantic upper-boreal-arctic circumpolar species, to New England and Hebrides Islands in the Northern Atlantic.

ECOLOGY. The species lives at depth from 3 to 385 m, on the silt substrates with stones and shell-debris, at temperature from negative to $+4^{\circ}\text{C}$ (in the south of the area in summer) and at salinity 26–35‰.

FIG. 10. *Margarites olivaceus* (Brown, 1827).

Margarites helycinus (Phipps, 1774)

Fig. 11; 12; 70

Turbo helycinus Phipps, 1774: 198;*Margarites helicina*— Filatova, Zatsëpin, 1948: 369, Pl. 95, f. 8; Galkin, 1955: 75-76, f. 16-19;*Margarites helycinus*— Macpherson, 1981: 20-21, Pl. I, f. 11, map 10; Matveeva, 1974: 84-88, f. 4; Golikov, 1987: 66-67, f. 18.FIG. 11. *Margarites helycinus* (Phipps, 1774).

H 8.5 mm, D 9.3 mm (from the Yarnyschnaya Guba of the Barents Sea)

DISTRIBUTION. Amphiboreal species, having a boreal-arctic type of distribution in the Atlantic. In the Northern Atlantic found from the England and Cape Cod to the Kara Sea. In the Pacific found in the Okhotsk and Bering seas and adjacent waters.

ECOLOGY. The species lives from the middle littoral zone to 276 m, among algae on stony and silty-stony substrates, at temperature from negative (in the north of the area) to +4-15°C (in the south of the area) and at salinity 25-34.8‰.

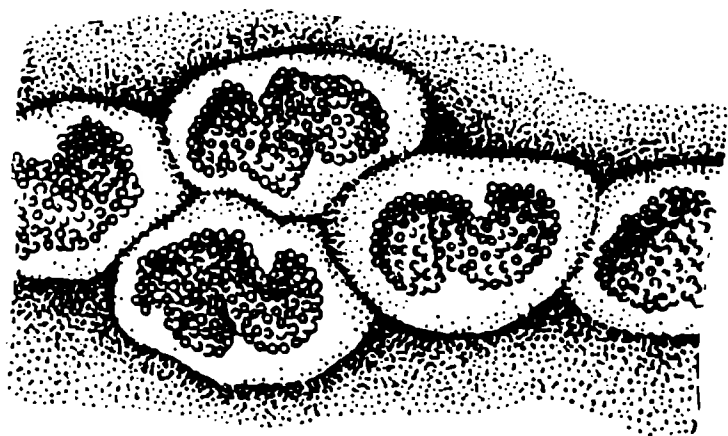
FIG. 12. Egg capsules of *Margarites helycinus* (Phipps, 1774)*Margarites vahlii* (Moeller, 1842)

Fig. 70; 118 G

Margarita vahlii Moeller, 1842: 83;*Margarites vahlii*— Galkin, 1955: 99-101, f. 53-56; Macpherson, 1971: 25, Pl. II, f. 3, map 12; Golikov, 1987: 67-68, f. 20.

H 4 mm, D 3.8 mm (from the East Siberian Sea)

DISTRIBUTION. Boreal-arctic circumpolar species, from the New England in the Atlantic Ocean and the Japan Sea in the Pacific Ocean.

ECOLOGY. The species lives at depths from 20 to 414 m, mostly on the sand-silty substrates, at temperatures from negative to +2.3°C and at salinity 28-34.8‰.

Margarites (Cantharidoscops) frigida
Dall, 1919

Fig. 70; 118 H

Margarites frigida Dall, 1919: 357;*Margarites (Cantharidoscops) frigida*— Galkin, 1955: 102-103, f. 58, 59.

H 6.5 mm, D 5.2 mm (from the Chuckchee Sea)

DISTRIBUTION. American-asian boreal-arctic species, found in the Okhotsk, Bering and Chukchee seas and adjacent waters.

ECOLOGY. The species lives at depths from 42 to 90 m, on the stony substrates, at temperatures from negative (in winter) to 2.63°C (in summer) and at salinity 32.25-32.59‰.

Genus *SOLARIELLA* Wood, 1842*Solariella obscura* (Couthouy, 1838)

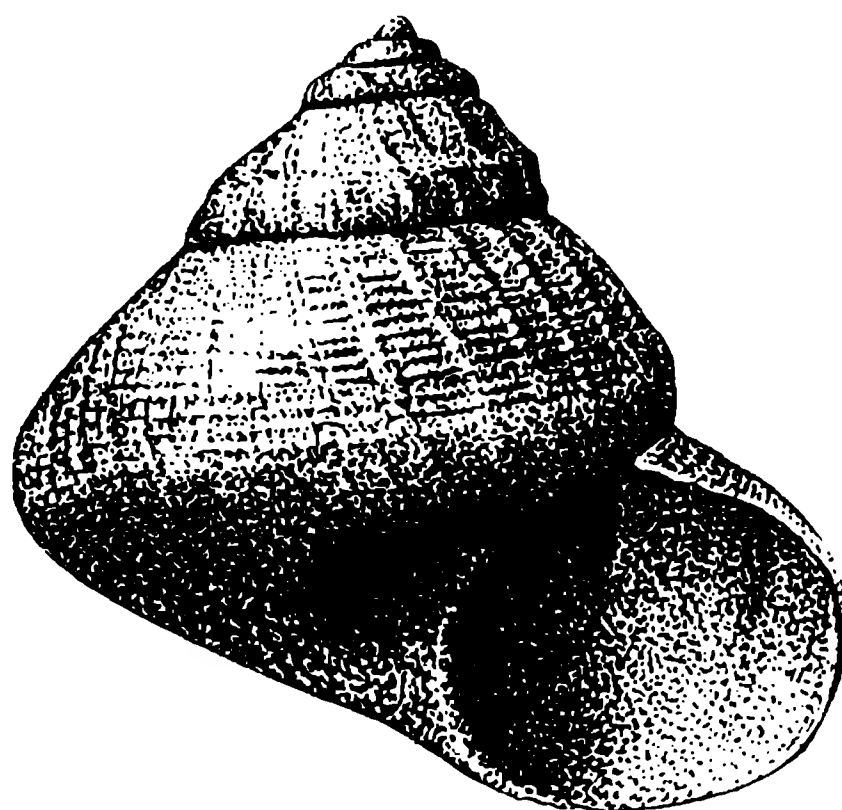
Fig. 13; 71

Turbo obscura Couthouy, 1838: 100, Pl. III, f. 12;*Solariella obscura*— Filatova, Zatsëpin, 1948: 370, Pl. 9, f. 4a, 6a, 7a; Galkin, 1955: 104-109, f. 60-65; Macpherson, 1971: 25-28, Pl. I, f. 17, map 12; Golikov, 1987: 8-9, f. 21

H 10.3 mm, D 12.3 mm

DISTRIBUTION. Boreal-arctic circumpolar species, found to Hebrides and New England in the Atlantic and to the western part of the Japan Sea and the Juan de Fuca Strait in the Pacific.

ECOLOGY. The species lives at depths from 3 to 355 m, mostly on the sandy, silty-sandy and silty substrates, at temperatures from negative to +2-12.7°C (in the south of the area) and at salinity 32-35‰.

FIG. 13. *Solariella obscura* (Couthouy, 1838)

Solariella varicosa
(Mighels et Adams, 1842)

Fig. 14; 71

Margarita varicosa Mighels et Adams, 1842: 4, Pl. III, f. 14;

Solariella varicosa— Filatova, Zatsepin, 1948: 370, Pl. 96, f. 3a; Galkin, 1955: 109-111, Pl. 63, 66-68; Macpherson, 1971: 28, Pl. II, f. 9a, b, map 12; Golikov, 1987: 69, f. 22.

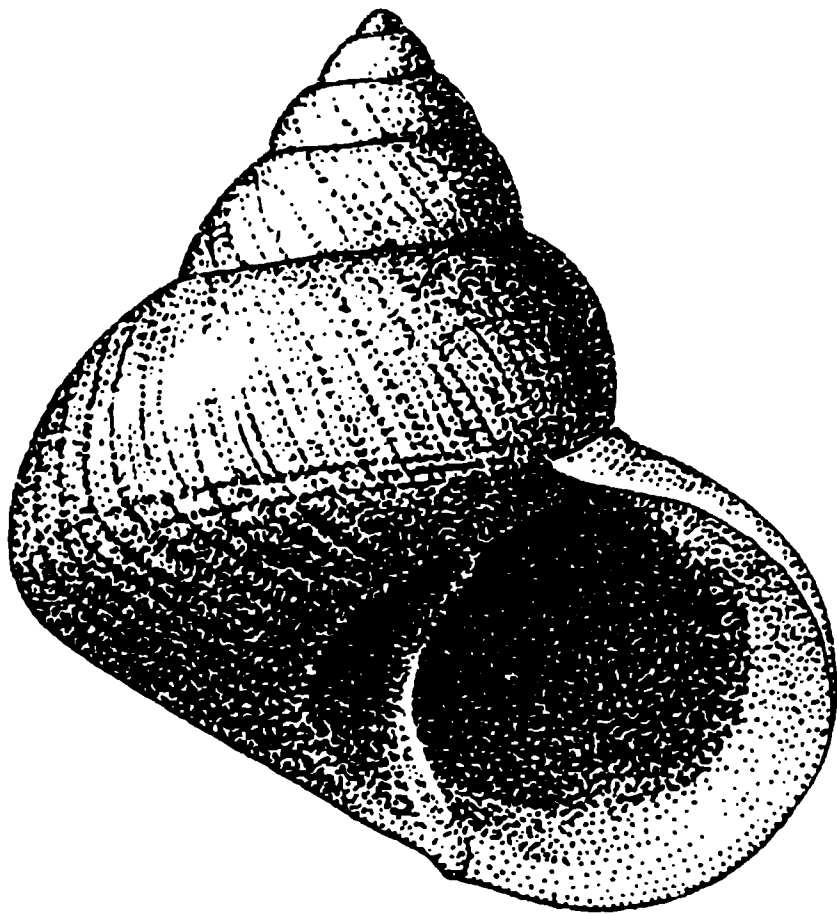


FIG. 14 *Solariella varicosa* (Mighels et Adams, 1842).

H 18.1 mm, D 12.3 mm (from the Barents Sea)

DISTRIBUTION. Boreal-arctic circumpolar species found from the western Norway and New England in the Northern Atlantic to northern Japan and California in the Pacific.

ECOLOGY. The species lives at depths from 0.2 to 355 m, on the silty substrates, at temperatures from negative to +2-12.8°C (in the south of the area) and at salinity 27-35‰.

Subfamily SKENEINAE
Stoliczka, 1868

Genus *GANESA* Jeffreys, 1883

Ganesa laevigata (Friele, 1876)

Fig. 15; 72

Moelleria laevigata Friele, 1876: 60;

Ganesa laevigata— Galkin, 1955, 125-127, f. 88-90.

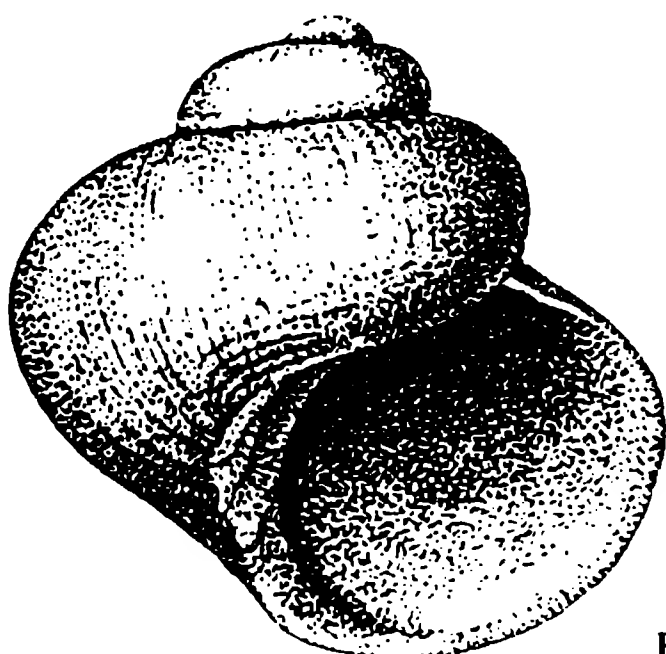


FIG. 15. *Ganesa laevigata* (Friele, 1876).

The height and diameter of the shell do not exceed 2.5 mm.

DISTRIBUTION. Atlantic boreal-arctic species, found in the all Polar seas and to Portugal in the Atlantic.

ECOLOGY. The species lives at depths from 45 to 914 m, on the silty and silty-sandy substrates, at temperatures from negative (in the north of the area) to +0.2-4°C (in the south of the area) and at salinity 28-34.4‰.

Ganesa basistriata (Jeffreys, 1877)

Fig. 16; 72

Cyclostrema basistriata Jeffreys, 1877: 234;

Ganesa basistriata— Galkin, 1955: 124-125, f. 86-89.

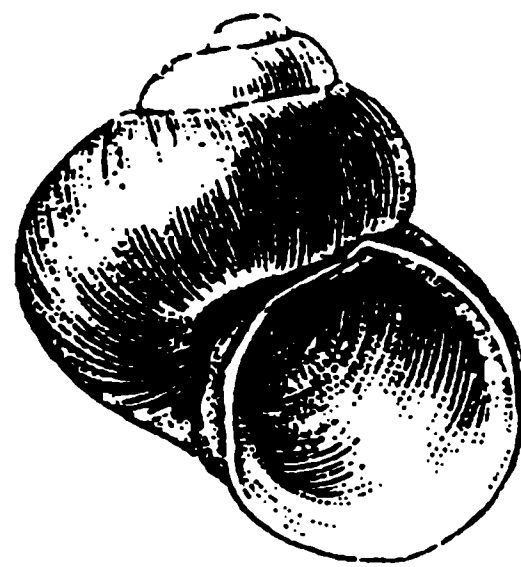


FIG. 16. *Ganesa basistriata* (Jeffreys, 1877).

H 3.3 mm, D 3.7 mm (off Novosibirskie Islands)

DISTRIBUTION. Atlantic boreal-arctic circumpolar species, to Portugal and New England in the Atlantic.

ECOLOGY. The species lives at depths from 45 to 3750 m, on silty substrates, at temperatures from -1.46°C to +2°C and at salinity 31.3-35‰.

Subfamily GIBBULINAE
Stoliczka, 1868

Genus *GIBBULA* Risso, 1826

Gibbula tumida (Montagu, 1803)

Fig. 72; 118 K

Trochus tumida Montagu, 1803, Tab. 10, f. 4;

Gibbula tumida— G.O. Sars, 1878: 171, Tab. 4, f. 2; Filatova, Zatsepin, 1948: 370, Pl. 95, f. 7; Galkin, 1955: 115-116, f. 74-76.

H 14 mm, D 13.5 mm; in the Barents Sea the shell height does not exceed 9.5 mm.

DISTRIBUTION. Atlantic European boreal species, found from Gibraltar to western part of the Barents Sea.

ECOLOGY. The species lives at depths from 10 to 100 m (off England—from 0 to 840 m), on the sandy-rocky substrates, at temperature of 2-12°C and at salinity 34-35‰.

Family **CALLIOSTOMATIDAE**

Thiele, 1924

Genus *CALLIOSTOMA* Swainson, 1840*Calliostoma occidentale*

(Mighels et Adams, 1842)

Fig. 72; 118 L

Trochus occidentale Mighels et Adams, 1842: 47, tab. 4, fig. 16;*Calliostoma occidentale*— Filatova, Zatsepin, 1948: 368, Pl. 95, f. 6, 6a; Galkin, 1955: 12-113, f. 71-72.

H 14.3 mm, D 12.2 mm; in the Barents Sea the shell height does not exceed 10.5 mm and the diameter 9 mm.

ECOLOGY. The species lives at depths from 40 to 310 m, on the rocky substrates, at temperatures from 2-3°C to 12°C, at salinity 34-35‰.

Order **CERITHIIFORMES**

H. Adams et A. Adams, 1854

Suborder **TURRITELLOIDEI**

Starobogatov, 1983

Family **TURRITELLIDAE**

Woodward, 1851

Genus *TACHYRHYNCHUS*

Moersch, 1868

Tachyrhynchus reticulatus

(Mighels et Adams, 1842)

Fig. 73; 118 O

Turritella reticulata Mighels et Adams, 1842: 50, Tab. 4, f. 19;*Tachyrhynchus reticulatus*—Thiele, 1928: 586; Macpherson, 1971: 40, Pl. I, f. 21, map 17; Golikov, 1986a: 1145.

H 24 mm

DISTRIBUTION. Upper-boreal arctic, almost circumpolar species, found from New England and Norway in the Northern Atlantic and to British Colombia in the Pacific.

ECOLOGY. The species lives at depths from 3 to 312 m, on the silty-stony substrates, at temperatures from negative to +5°C (in the south of the area) and at salinity 33-35‰.

Tachyrhynchus erosus (Couthouy, 1838)

Fig. 73; 118 M

Turritella erosa Couthouy, 1838: 103, Pl. 3 f. I;*Tachyrhynchus erosus*— Thiele, 1928: 586; Macpherson, 1971: 38-39, Pl. I, f. 20, map 17; Golikov, 1986: 1146.

H 25 mm, D 8 mm

DISTRIBUTION. Boreal-arctic circumpolar species, found from New England in the Atlantic to Northern Japan and Southern Alaska in the Pacific.

ECOLOGY. The species lives at depths from 12 to 355 m on the silty with stones and shell-debris substrates, at temperatures from negative to +6°C (in the south of the area) and salinity 32-35‰.

Tachyrhynchus spitzbergensis

Golikov, 1986

Fig. 73; 118 N

Tachyrhynchus spitzbergensis Golikov, 1114-1145, f. 2.

H 20 mm, D 6.5 mm

DISTRIBUTION. Arctic species, found in all Polar seas of Eurasia and in the Bering Sea to Anadyr Bay.

ECOLOGY. The species lives at depths from 18 to 295 m, on the silty with pebbles and shell-debris substrates, predominantly at negative temperature.

Family **TURRITELLOPSIDAE**

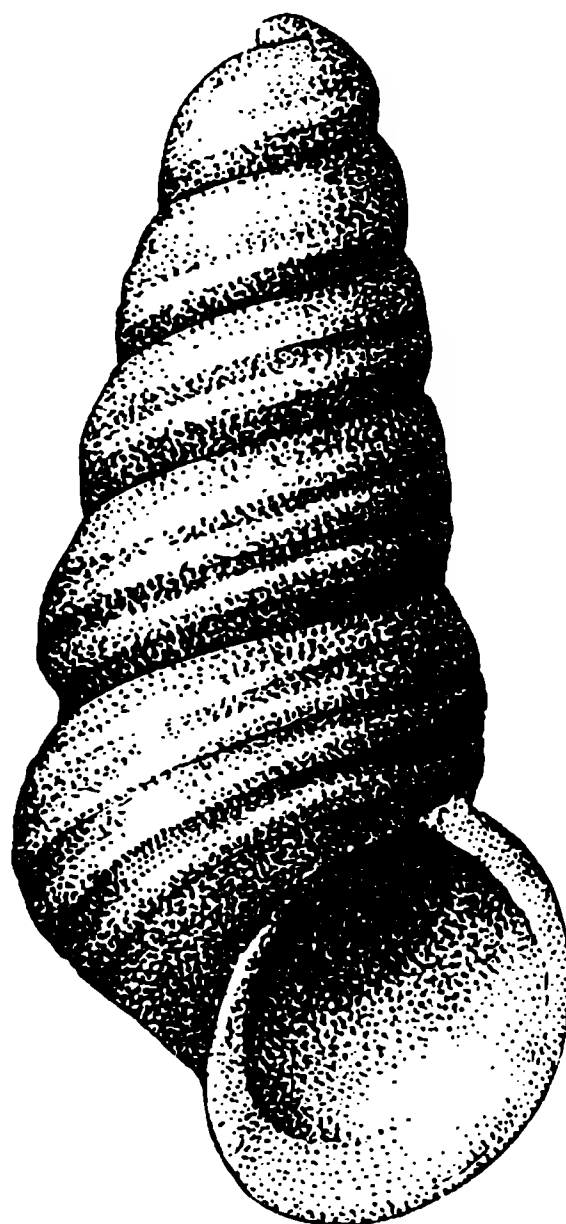
Starobogatov, 1983

Genus *TURRITELLOPSIS*

G.O. Sars, 1878

Turritellopsis acicula (Stimpson, 1851)

Fig. 17; 73

Turritella acicula Stimpson, 1851: 15;FIG. 17 *Turritellopsis acicula* (Stimpson, 1851).

Turritellopsis acicula— G.O. Sars, 1878: 186, Tab. 10, f. 14a, b; Thorson, 1944: 41-42.

H 5.5 mm, D 2.3 mm (from the White Sea)

DISTRIBUTION. Boreal-arctic species, found from Cape Cod to East Siberian Sea and from Alaska to California.

ECOLOGY. The species lives at depths from 2 m (off Labrador) to 150 m (off Spitzbergen), predominantly on the silty with stones substrates at temperatures from -1.7-2°C (in the north of the area) to 0.2-7°C (in the south of the area) and at salinity 28-34.8‰.

Suborder CERITHIOPSOIDEI

H. Adams et A. Adams, 1854

Family EUMETULIDAE

Golikov et Starobogatov, 1975

Genus *LASKEYA* Iredale, 1912

Laskeya arctica (Moerch, 1857)

Fig. 74; 118 P

Cerithium arcticum Moerch, 1857: 127;

Cerithiopsis costulata— G.O. Sars, 1878: 189, Tab. VII, f. 5;

Laskeya costulata— Thiele, 1928: 587;

Laskeya arctica— Golikov, 1987: 101-102, f. 51.

H 7 mm, D 3.2 mm (White Sea)

DISTRIBUTION. Atlantic upper-boreal-arctic species, found from Ireland and Fundy Bay to Chukchee Sea.

ECOLOGY. The species lives at depths from 35 m (in the White Sea) to 565 m (off Norway), on the silty-sandy with gravel substrates, at temperatures from negative (in the north of the area) to 5-11°C (in the south of the area) and at salinity 26.8-34.5‰.

Family CERITHIELLIDAE

Starobogatov, 1975

Genus *CERITHIELLA* Verrill, 1882

Cerithiella metula (Loven, 1846)

Fig. 74; 118 Q

Cerithium metula Loven, 1846: 23;

Lovenella metula— G.O. Sars, 1878: 187, Tab. 13, f. 5, Tab. VII, f. 4;

Cerithiella metula— Thiele, 1928: 587; Golikov, 1988: 502.

H 7 mm, D 2 mm

DISTRIBUTION. Atlantic upper-boreal-arctic species, found in the Norwegian and Barents seas.

ECOLOGY. The species lives at depths from 44 to 820 m, on the silty and silty-sandy with stones and gravel substrates, at temperature from negative to 3-4°C and at salinity 33-35‰.

Cerithiella whiteavesii (Verrill, 1880)

Fig. 18; 74

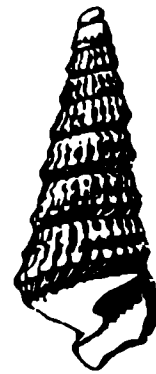
Cerithium whiteavesii Verrill, 1880: 375;

Cerithiella whiteavesii— Golikov, 1988: 502.

H 10 mm, D 2 mm (from the Kara Sea)

DISTRIBUTION. Arctic circumpolar species.

FIG. 18. *Cerithiella whiteavesii* (Verrill, 1880).



ECOLOGY. The species lives at depths from 49 to 869 m, on the silty with pebbles and stones substrates, often among sponges and bryozoans, at temperatures from negative to +3°C and at salinity 32-35‰.

Genus LAIOCOCHLIS

Dunker et Metzger, 1874

Laiocochlis granosa (Wood, 1848)

Fig. 74; 119 A-B

Cerithium granosum Wood, 1848: 73, Pl. VIII, f. 5;

Laiocochlis granosa— Dautzenberg, Fischer, 1912: 175-176; Golikov, 1988: 502.

H 32 mm, D 8 mm (off Spitzbergen)

DISTRIBUTION. Atlantic upper-boreal arctic species, from the Norwegian and Barents Seas.

ECOLOGY. The species lives at depths from 125 to 500 m, on the silty with stones and gravel substrates, often among sponges and bryozoans, at temperatures from negative to +3°C and at salinity 33-35‰.

Suborder LITTORINOIDEI

Pcelintsev, 1962

Family LACUNIDAE Gray, 1857

Genus *EPHERIA* Leach in Gray, 1847

Epheria vineta (Montagu, 1803)

Fig. 119 D

Turbo vinetus Montagu, 1803: 307, Pl. 20, f. 3;

Lacuna (Epheria) divaricata— Filatova, Zatsepin, 1948: 373, Pl. 96, f. 12;

Epheria vineta— Matveeva, 1974: 100-104, Pl. II; Golikov, Kussakin, 1978: 72-74, Pl. 43.

H 21 mm, D 11.5 mm (from the Barents and White seas)

DISTRIBUTION. Widely spread amphiboreal species. In the Northern Atlantic it inhabits the areas from the Biscay Bay and Cape Cod in the south and to Greenland and Novaya Semlya in the North. In the Pacific it is distributed from the Iturup Island and California to the Bering Strait.

ECOLOGY. Inhabits an interval from the middle horizon of the littoral to the depth of 100 m, predominantly on the thick layers of algae and marine grass leaves, more rare on the stony substrates, at temperatures from negative (in the north of the area) to 6-18°C (in the south of the area) and at salinity 18-35‰.

Epheria crassior (Montagu, 1803)

Fig. 19; 119 C

Epheria crassior Montagu, 1803: 309, Pl. 20, f. I;

Epheria crassior— Golikov, Scarlato, 1977: 320-322, Pl. 4-6.

H 10 mm, D 6 mm (from the Barents Sea)

DISTRIBUTION. Predominantly arctic, almost circumpolar species penetrating into the upper-boreal waters of Northern Atlantic to the England, whereas in the Pacific—to the Pribyloff Islands.

ECOLOGY. The species lives at the depths from 2 to 90 m, among algae and on the silty-sandy with stones substrates, at temperature from negative (in the north of the area) to 0-+6°C (in the South) and at salinity 28-34.8 ‰.

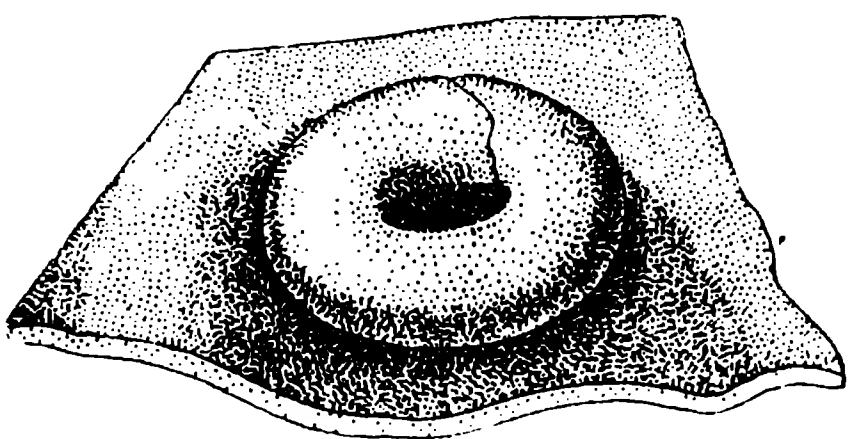


FIG. 19. Egg capsula of *Epheria crassior* (Montagu, 1803).

Genus *LACUNA* Turton, 1827

Lacuna neritoidea Gould, 1840

Fig. 20

Lacuna neritoidea— Gould, 1840: 197; Matveeva, 1974: 99-100, Pl. 7; Golikov, Kussakin, 1978: 79-80, Pl. 48;

Lacuna pallidula— Filatova, Zatsepin, 1948: 373, 374, Pl. 96, f. IIe (non Da Costa).

H 8.5 mm, D 7.6 mm (from the Barents Sea)

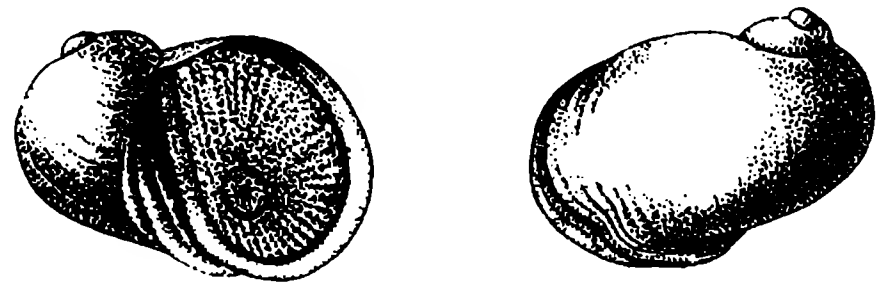


FIG. 20. *Lacuna neritoidea* Gould, 1840.

DISTRIBUTION. Atlantic boreal species, found from Cape Cod and Gelholand Island to the White Sea.

ECOLOGY. The species lives within the depth range from the littoral zone to 20 m, predominantly on algae, at temperatures from negative (in the north of the area) to 4-18°C (in the south of the area) and at salinity 24-34.4 ‰.

Family *LITTORINIDAE* Gray, 1840

Genus *LITTORINA* Ferussac, 1821

Subgenus *LITTORINA* Ferussac, 1821

Littorina (Littorina) littorea
(Linnaeus, 1758)

Fig. 119 G-H

Turbo littoreus Linnaeus, 1758: 761,

Littorina (Algaroda) littorea— Filatova, Zatsepin, 1948: 372, Pl. 96, f. 8; Golikov, Kussakin, 1978: 82-84, f. 49;

Littorina littorea— Matveeva, 1974: 121-128, Pl. 19-21.

H 41 mm, D 33 mm (from the Barents Sea)

DISTRIBUTION. Atlantic boreal species, found from South England to New Scotia, Labrador and the White Sea.

ECOLOGY. The species lives from the middle horizon of littoral to 50 m, predominantly among algae and marine grass, as well as on the rocky, stony, sometimes silty, substrates, at temperatures from negative to +8-20°C (in the south of the area) and at salinity 10-35 ‰. Egg-capsules planctonic.

Subgenus *NERITREMA* Recluz, 1869

Littorina (Neritrema) obtusata
(Linnaeus, 1758)

Fig. 21; 119 I-J

Turbo obtusatus Linnaeus, 1758: 671;

Littorina obtusata— Filatova, Zatsepin, 1948: 373, Pl. 96, f. 10; Matveeva, 1974: 117-121, f. 48; Golikov, Kussakin, 1978: 93-94, f. 57.

H 16 mm, D 16 mm (from the Barents Sea)

DISTRIBUTION. Atlantic boreal species, found from the Pirenean Peninsula and New Jersey to Novaya Zemlya and Labrador.

ECOLOGY. The species lives at depths ranging from the lower zone of the upper littoral horizon to

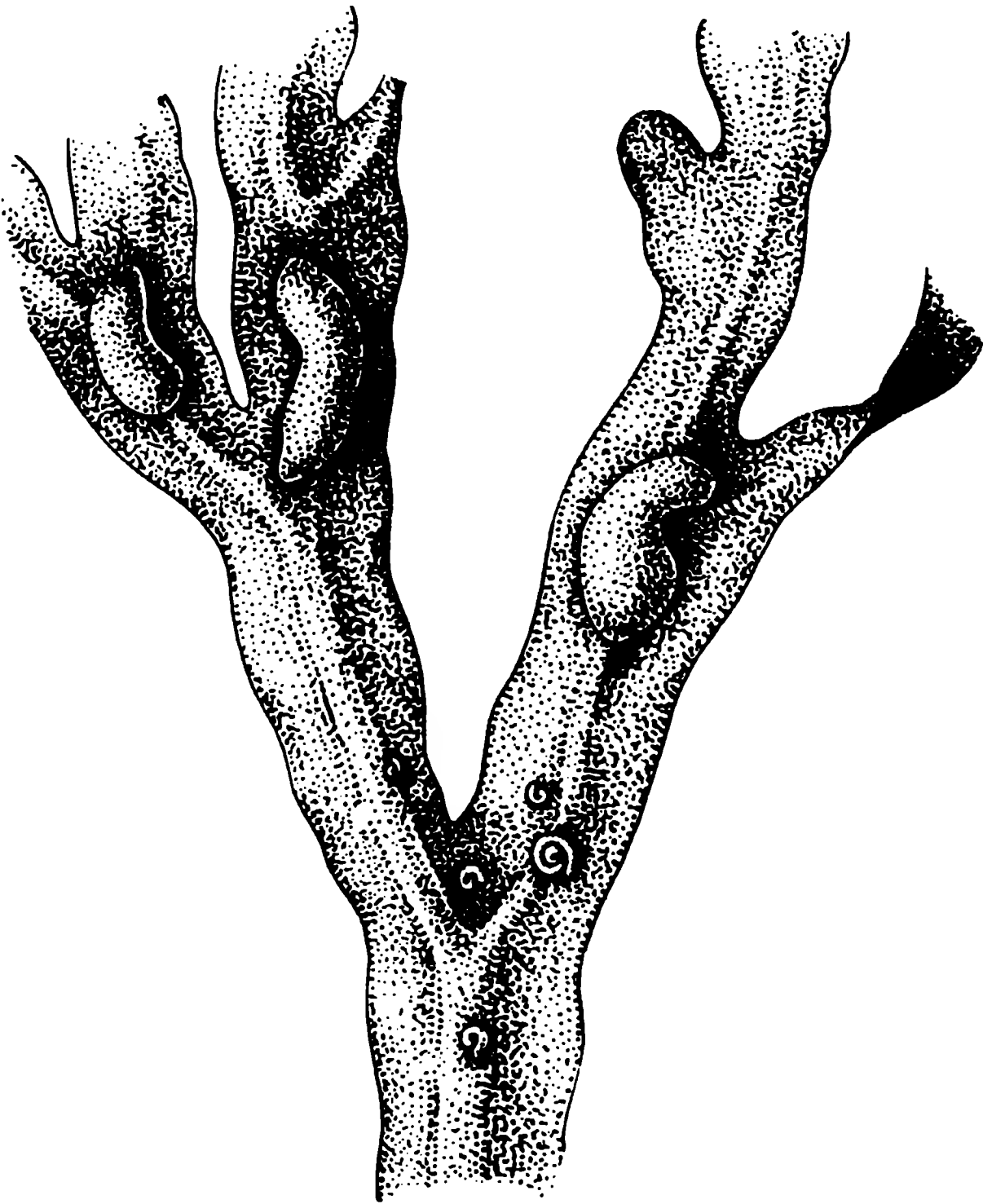


FIG. 21. Egg capsules of *Littorina (Neritrema) obtusata* (L., 1758).

3 m, on the algae and on the stony and rocky substrates, at temperatures from negative to +7-20°C (in the south of the area) and at salinity of 10-35‰. It lays egg-capsules. Development is direct.

Littorina (Neritrema) fabalis
(Turton, 1825)

Fig. 119 E

Littorina fabalis Turton, 1825: 361-367;

Littorina maria Sacchi et Bastelli, 1966: 351-370;

Littorina (Neritrema) fabalis— Smith, 1982: 535-539.

H 12 mm, D 10 mm (from the Barents Sea)

DISTRIBUTION. Atlantic European boreal species, found from English Channel to the White Sea.

ECOLOGY. The species lives in the middle horizon of littoral, on algae, at temperatures from negative to +5-18°C and at salinity 12-35‰.

Littorina (Neritrema) jugosa
(Montagu, 1803)

Fig. 119 F

Turbo jugosus Montagu, 1803: 586, Pl. 20, f. 7;

Littorina nigrolineata Gray, 1839: 140.

H 18 mm, D 16 mm (from the Barents Sea)

DISTRIBUTION. Atlantic European boreal species, found from the Pirenean Peninsula to the White Sea.

ECOLOGY. The species lives in the middle and lower horizons of littoral, predominantly under stones, at temperatures from negative to +8-20°C. Lays violet egg masses under stones. Development is direct.

Subgenus *VIVILITTORINA*

Golikov, subgen. nov.

The subgenus is characterized by ovi-viviparous reproduction.

Type species—*Turbo saxatilis* Olivi, 1792.

Littorina (Vivilittorina) saxatilis
(Olivi, 1792)

Fig. 119 K-L

Turbo saxatilis Olivi, 1792: 172, Pl. 5, f. 3a, 3d;

Littorina saxatilis rudis— Filatova, Zatsepin, 1948: 373, Pl. 96, f. 9;

Littorina saxatilis— Matveeva, 1974: 105-116, f. 13-17; Golikov, Kussakin, 1978: 86-87, Pl. 52.

H 22 mm, D 19 mm

DISTRIBUTION. Atlantic subtropical-boreal species, found from the Mediterranean Sea (Italy) to Massachusetts and south part of Novaya Zemlya.

ECOLOGY. Amphibious species that lives within the supralittoral zone and on the littoral, rarely inhabits the upper horizon of sublittoral zone, predominantly on rocky and stony substrates, at temperatures from negative to +8-22°C (in the south of the area) and at salinity 8-35‰. Oviviparous species.

Family **RISSOIDAE** Gray, 1847

Genus *TURBOELLA*

Leach in Gray, 1847

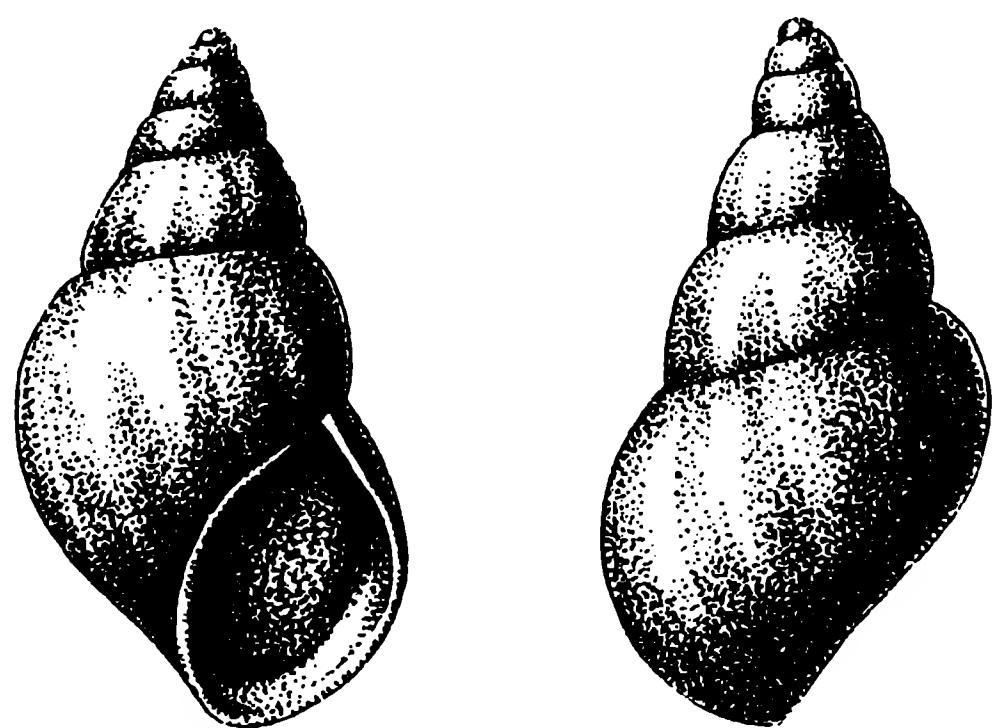


FIG. 22. *Turboella interrupta* (J.Adams, 1798).

Turboella interrupta (J. Adams, 1798)

Fig. 22

Turbo interruptus J. Adams, 1798: 3, Pl. 1, f. 16, 17;*Rissoa interrupta*— G.O. Sars, 1878: 180, Tab. 10, f. 9a, 9b;*Mohrensterni interrupta*— Golikov, Kussakin, 1978: 120-121, Pl. 80.

H 4.4 mm, D 2.5 mm (from the White Sea)

DISTRIBUTION. Atlantic European widely spread boreal species, found from England and Western France to the southern part of the Barents Sea.

ECOLOGY The species lives from the lower littoral horizon to 10-13 m, predominantly among dense algae, at temperatures from negative (in winter) to 8-16°C (in summer) and at salinity 25-34‰.

Genus *FRIGIDOALVANIA*

Waren, 1974

Frigidoalvania janmayeni

(Friele, 1878)

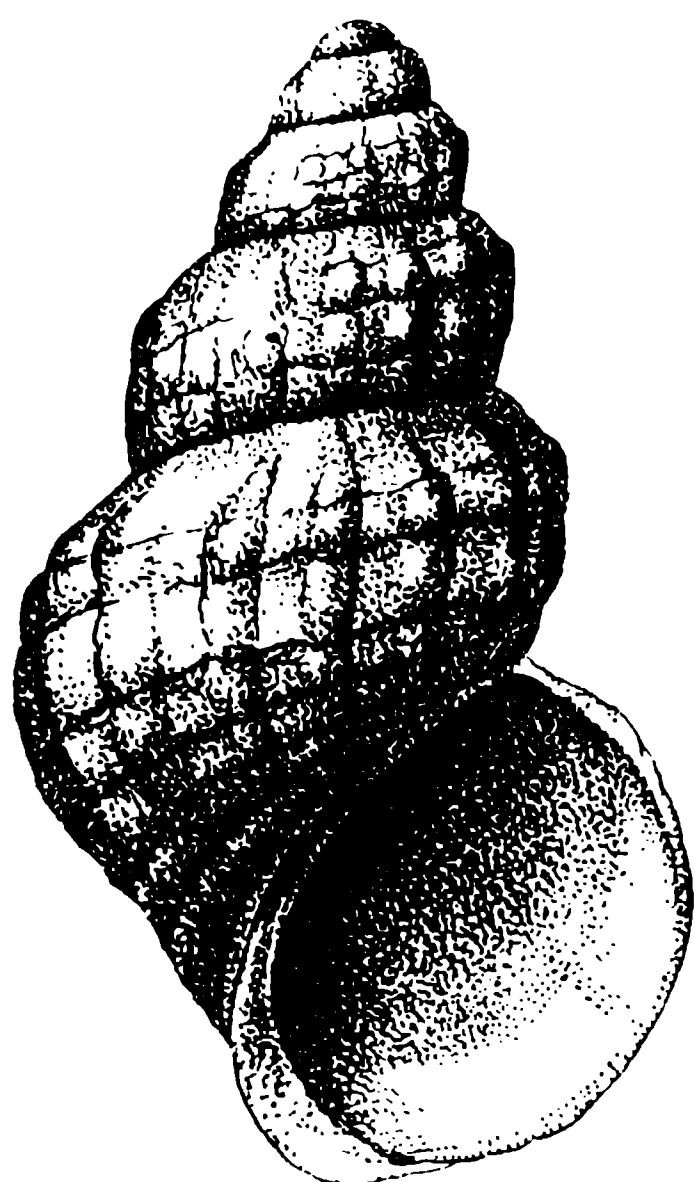
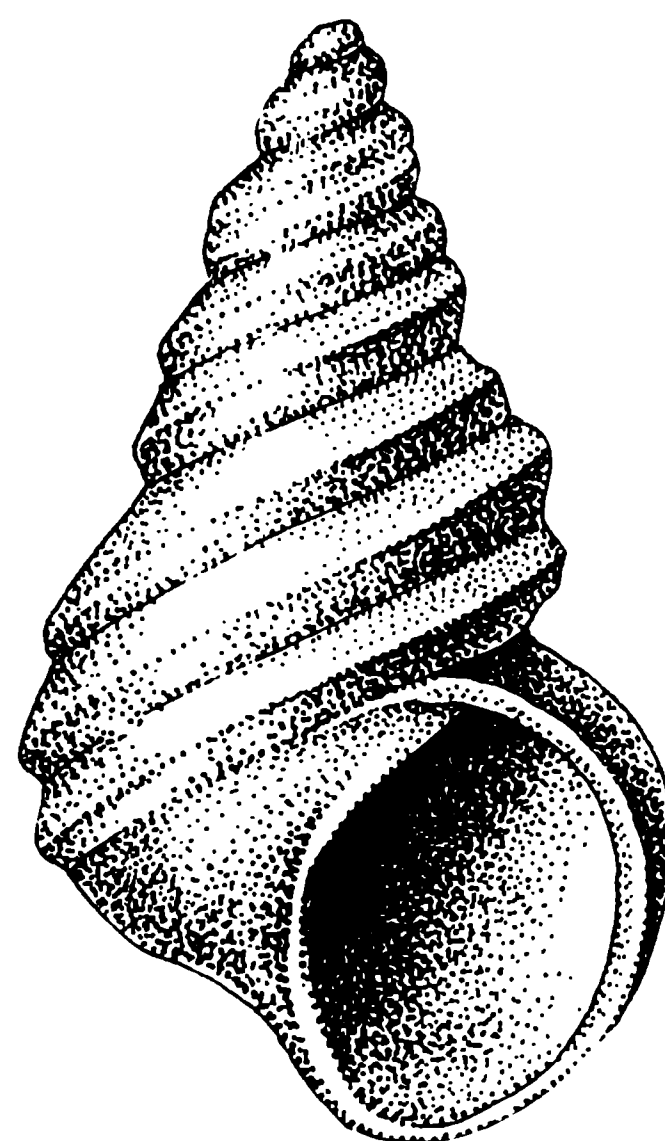
Fig. 23; 75; 120 A

Rissoa jan-mayeni Friele, 1878: 224, Tab. 1, f. 4a, b;*Alvania jan-mayeni*— Filatov, Zaitsepin, 1948: 375, Pl. 97, f. 7;*Arctonia jan-mayeni*— Golikov, Scarlato, 1977: 322.

H 5.8 mm

DISTRIBUTION. Eurasian arctic species, found from New England to Novosibirskie Islands.

ECOLOGY The species lives at depths from 8 m (eastern Greenland) to 890 m (Martas-Viniyard

FIG. 23. *Frigidoalvania janmayeni* (Friele, 1878)FIG. 24. *Frigidoalvania scorbiculata* (Moeller, 1842)

Island), on the silty substrates, at temperatures from negative to +3°C and at salinity 28-35‰.

Frigidoalvania scorbiculata

(Moeller, 1842)

Fig. 24; 75

Rissoa scorbiculata Moeller, 1842: 9;*Alvania scorbiculata*— Odhner, 1915: 169, Tab. 1, f. 11, 12; Thiele, 1928: 585; Thorson, 1941: 40-41, Thorson, 1944: 37

H 3 mm, D 1.8 mm

DISTRIBUTION. Eurasian arctic species, found from Norway to Novosibirskie Islands.

ECOLOGY The species lives at depths from 12 to 342 m, on the silty substrates, at temperatures from negative to +2°C and at salinity 30-35‰.

Frigidoalvania cruenta (Odhner, 1915)

Fig. 75; 120 B

Alvania cruenta Odhner, 1915: 167, Tab. 1, f. 1-6;*Alvania cruenta*— Thiele, 1928: 586.

H 3-4 mm, D 1.8-2.2 mm

DISTRIBUTION. Eurasian arctic species, found from Norway to Novosibirskie Islands.

ECOLOGY The species lives at depth from 3 m (Novaya Zemlya) to 126 m (off western Greenland), on the silty substrates, at temperatures from negative to +3°C and at salinity 29-33.5‰.

Genus *PUNCTULUM*

Jeffreys, 1881

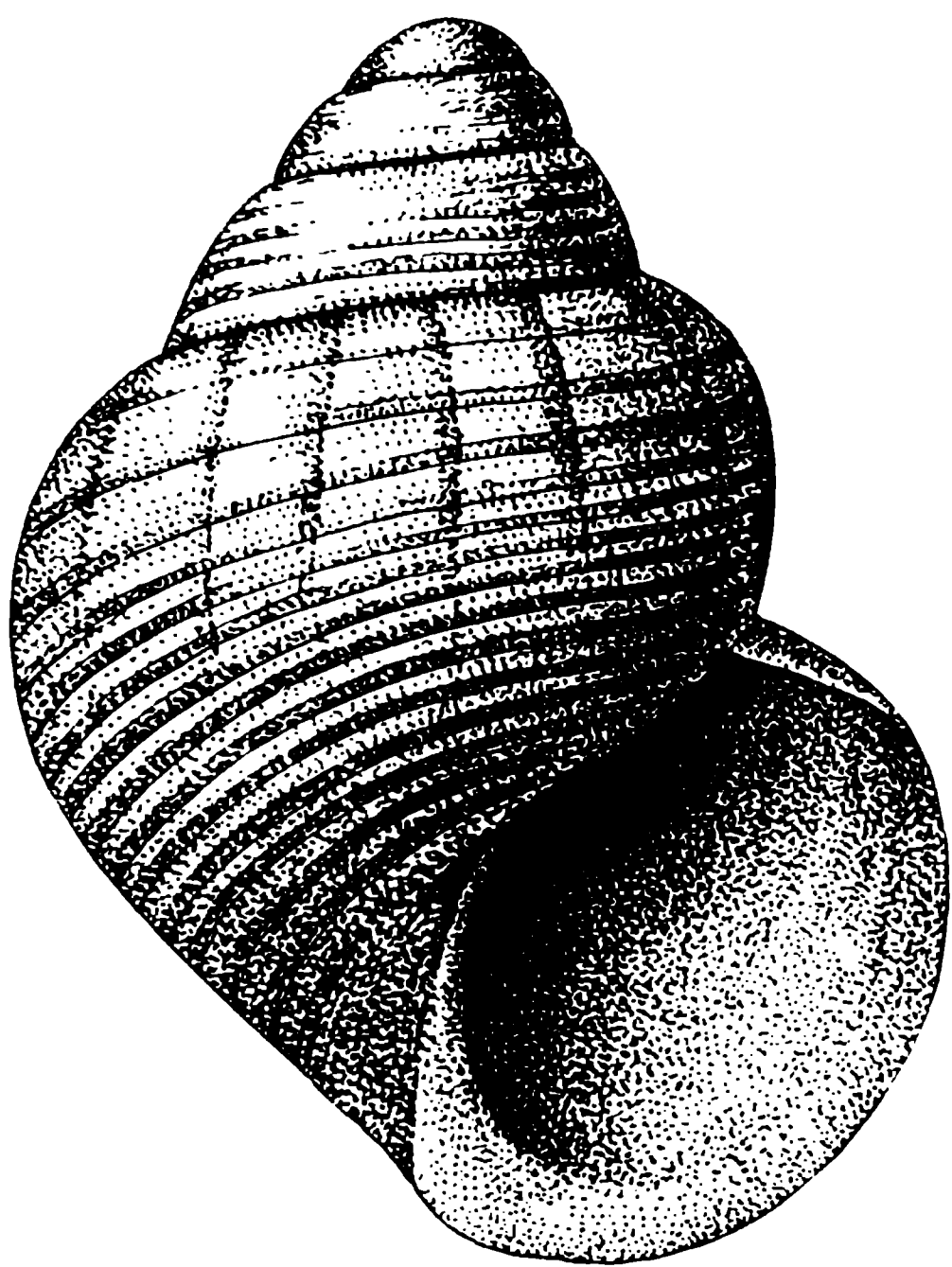


FIG. 25. *Punctulum wyvillethomsoni* (Jeffreys in Friele, 1877)

Punctulum wyvillethomsoni
(Jeffreys in Friele, 1877)

Fig. 25; 76

Risso wyville-thomsoni Jeffreys in Friele, 1877: 3;
Alvania wyville thomsoni— Thorson, 1944: 38-39.

H 3.8 mm, D 2.6 mm (from the Barents Sea)

DISTRIBUTUON. Arctic species, found from Greenland to the East Siberian Sea.

ECOLOGY. The species lives at depths from 47 m (in the White Sea) to 2814 m (to the northward of Norway) on the silty substrates, at temperatures from negative to +2.2°C and at salinity 28-35‰.

Punctulum minutum
Golikov et Fedjakov, 1987

Fig. 26; 76

Punctulum minutum Golikov, 1987: 82-83, Pl. 34.

H 2.2 mm, D 1.4 (holotype)

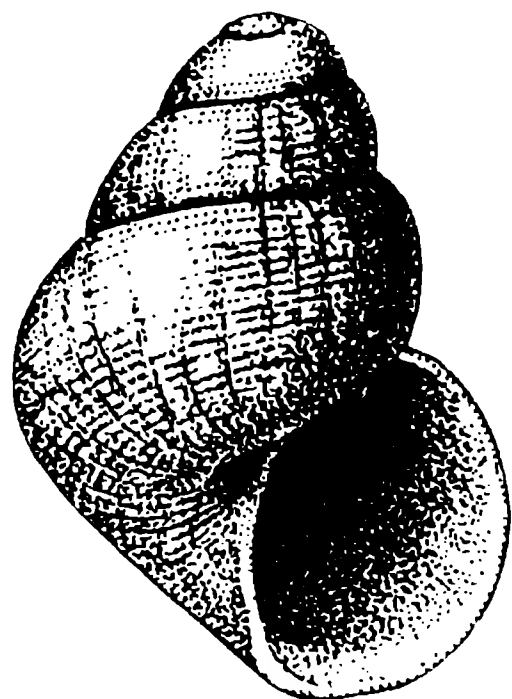


FIG 26. *Punctulum minutum* Golikov et Fedjakov, 1987

DISTRIBUTUON. Arctic upper-boreal species, found in the White, Barents, Kara and Okhotsk seas.

ECOLOGY. The species lives at depths from 5 m (in the White Sea) to 183 m (in the Barents Sea), on the silty substrates, sometimes with gravel, at temperatures from negative to +4.2°C and at salinity 27.2-33.5‰.

Family ONOBIDAE
Golikov et Starobogatov, 1975

Genus *BOREOCINGULA*
Golikov et Starobogatov, 1974

Boreocingula martyni (Dall, 1886)

Fig. 27; 76

Cingula robusta var. *martyni* Dall, 1886: 306, Pl. 3, f. 9;
Boreocingula martyni— Golikov, Kussakin: 104-105, Pl. 65.

H 5.7 mm, D 3.6 mm

DISTRIBUTION. American-asian upper-boreal arctic species, found from the Okhotsk Sea to Alaska and the East Siberian Sea.

ECOLOGY. The species lives from the middle horizon of littoral zone to 30 m, among algae and on the rocky and stony substrates, at temperatures from negative to +6-12°C and at salinity 28-33‰.

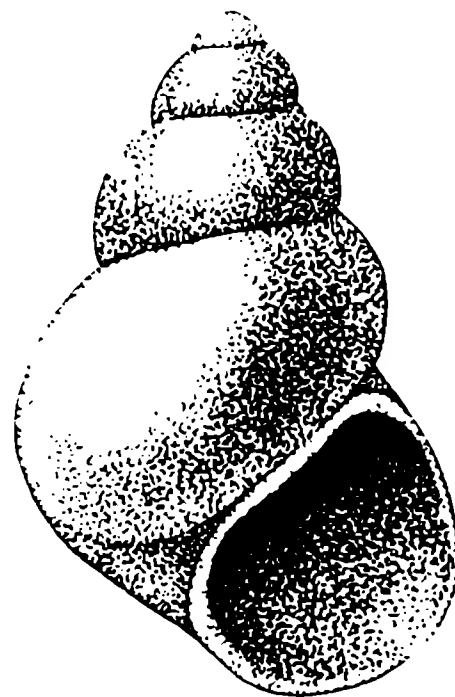


FIG. 27 *Boreocingula martyni* (Dall, 1886).

Genus *ONOBA*
H. Adams et A. Adams, 1852

Onoba aculeus (Gould, 1841)

Fig. 28

Rissoa aculeus Gould, 1841: 266, f. 172;
Cingula (Onoba) aculeus— Filatova, Zatsepin, 1984: 374, Pl. 97, f. 2;

Onoba aculeus— Matveeva, 1974: 132-136, Pl. 24, 25;
Golikov, Kussakin, 1978: 110-111, Pl. 69.

H 4.9 mm, D 1.8 mm (from the White Sea)

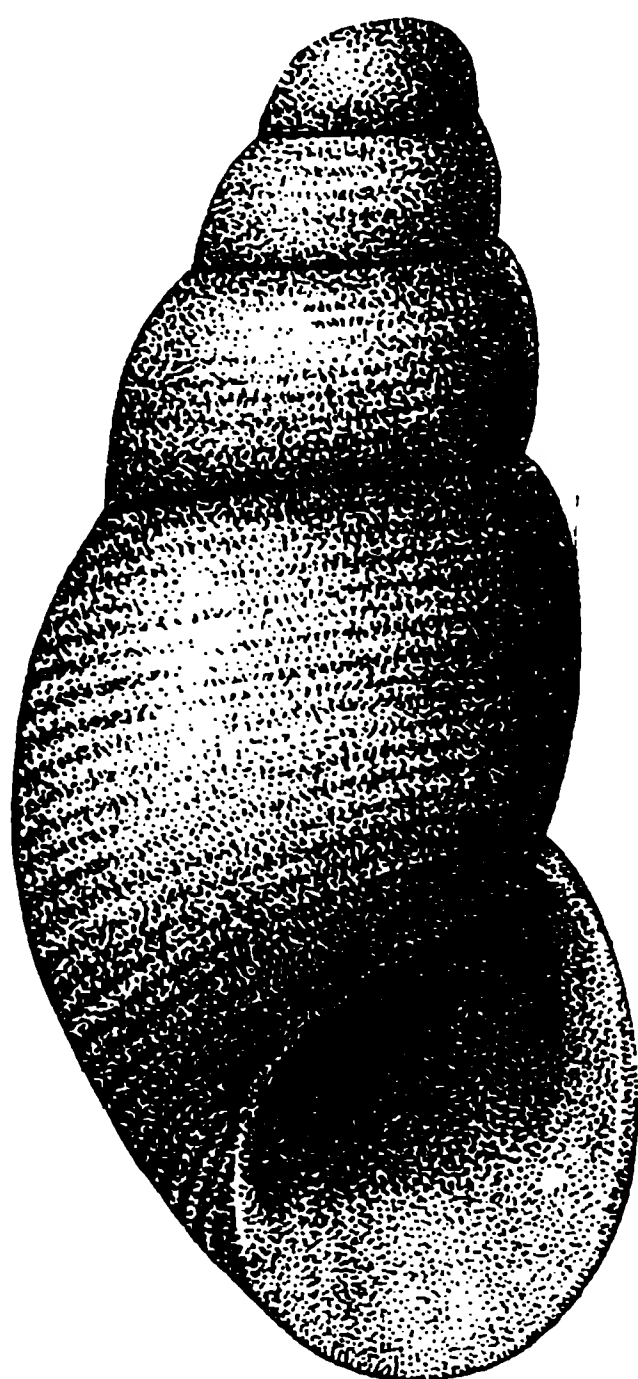


FIG. 28. *Onoba aculeus* (Gould, 1841)

DISTRIBUTION. Atlantic upper-boreal species, found from Norway and New England to the White Sea and adjacent waters.

ECOLOGY. Inhabits from the middle horizon of the littoral zone to depth of 300 m, on the stony, rocky and silty substrates, at temperature from negative to +3°C (in winter) and to +6-20°C (in summer) and at salinity of 15-34‰.

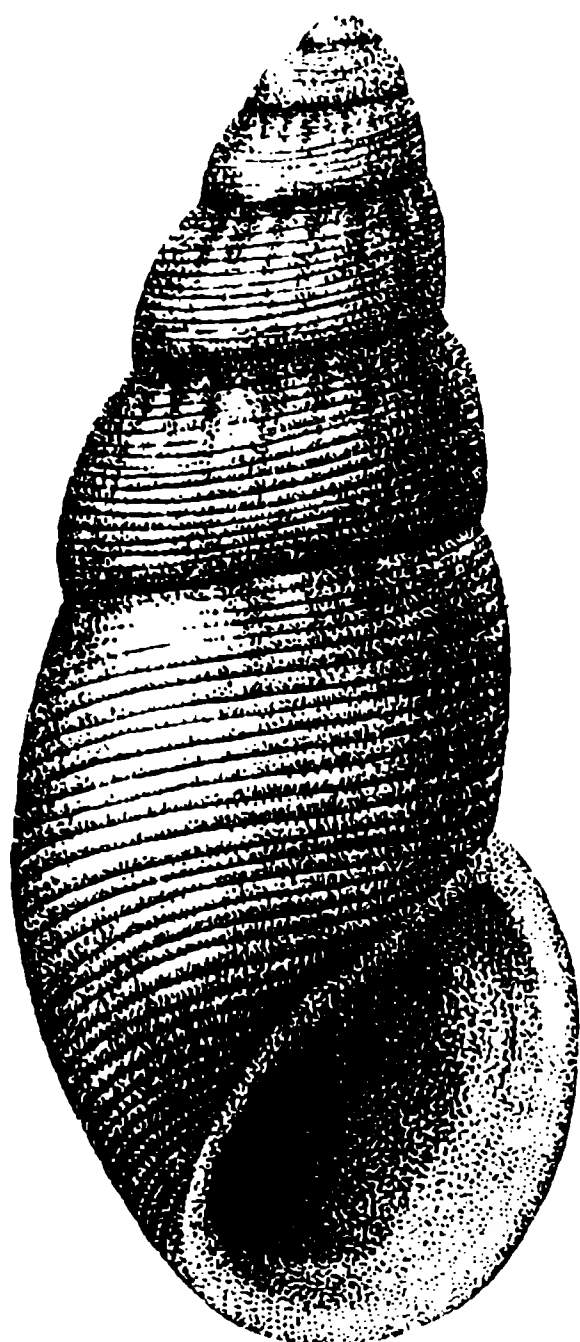


FIG. 29. *Onoba striata* (J. Adams, 1795).

Onoba striata (J. Adams, 1795)

Fig. 29

Turbo striatus J. Adams, 1795: 66, Pl. 13, f. 25, 26;

Onoba striata— Golikov, Kussakin, 1978: 111-112.

H 3.7 mm, D 1.4 mm (from the Barents Sea)

DISTRIBUTION. Atlantic European subtropical-boreal species, found from the Mediterranean Sea to Spain and the Barents Sea.

ECOLOGY. Inhabits from the middle horizon of littoral zone to 95 m, under rocks and on the silty substrates, at temperatures from 0-12°C (in winter) to 10-24°C (in summer) and at salinity 32-34.5‰.

Onoba karica Golikov, 1986

Fig. 30

Onoba karica Golikov, 1986: 86, Pl. 2.

H 3.1 mm, D 1.5 mm

DISTRIBUTION. Arctic species, found from the northern part of the Kara Sea.

ECOLOGY. The species lives at depths of 300 m, on the silty substrates, at temperatures of 1.4°C and at salinity of 34.92‰.

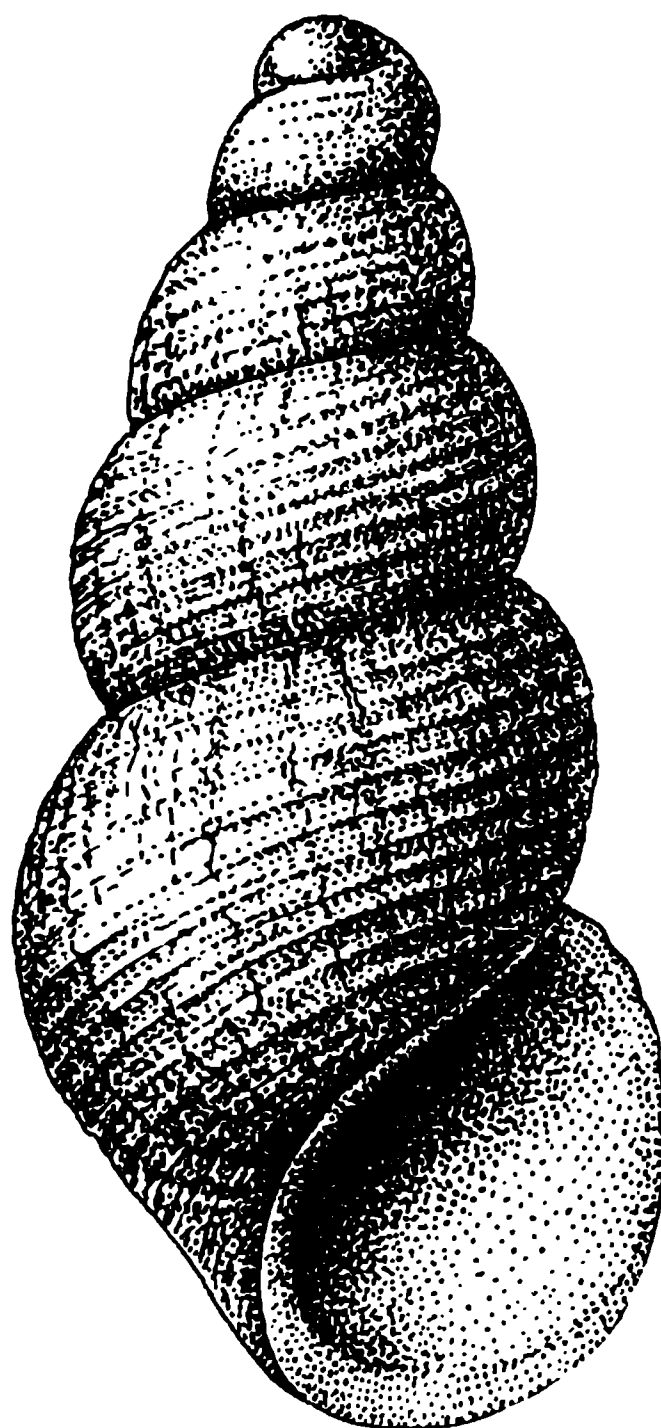


FIG. 30. *Onoba karica* Golikov, 1986.

Onoba castanea (Moeller, 1842)

Fig. 31; 77; 121 A

Rissoa castanea Moeller, 1842: 9;

FIG. 31. *Onoba castanea* (Moeller, 1842).

Onoba castanea— Filatova, Zatsepin, 1948: 374; Golikov, Kussakin, 1978: 112-113, f. 71

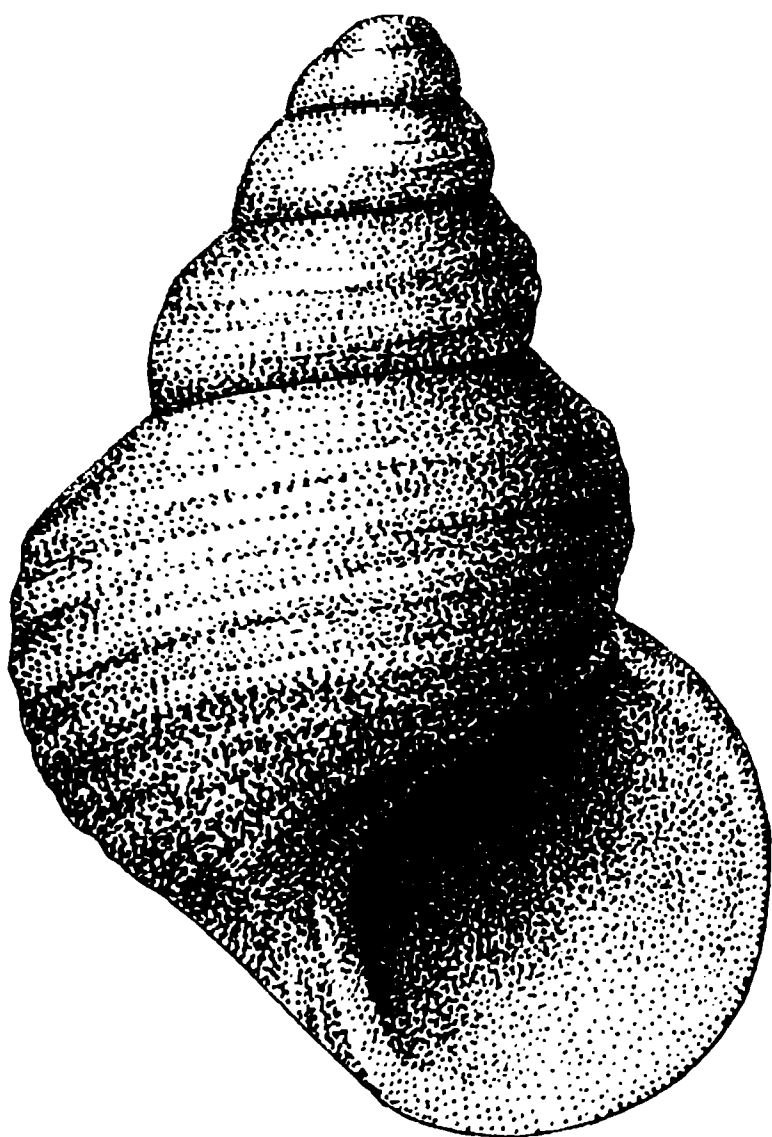
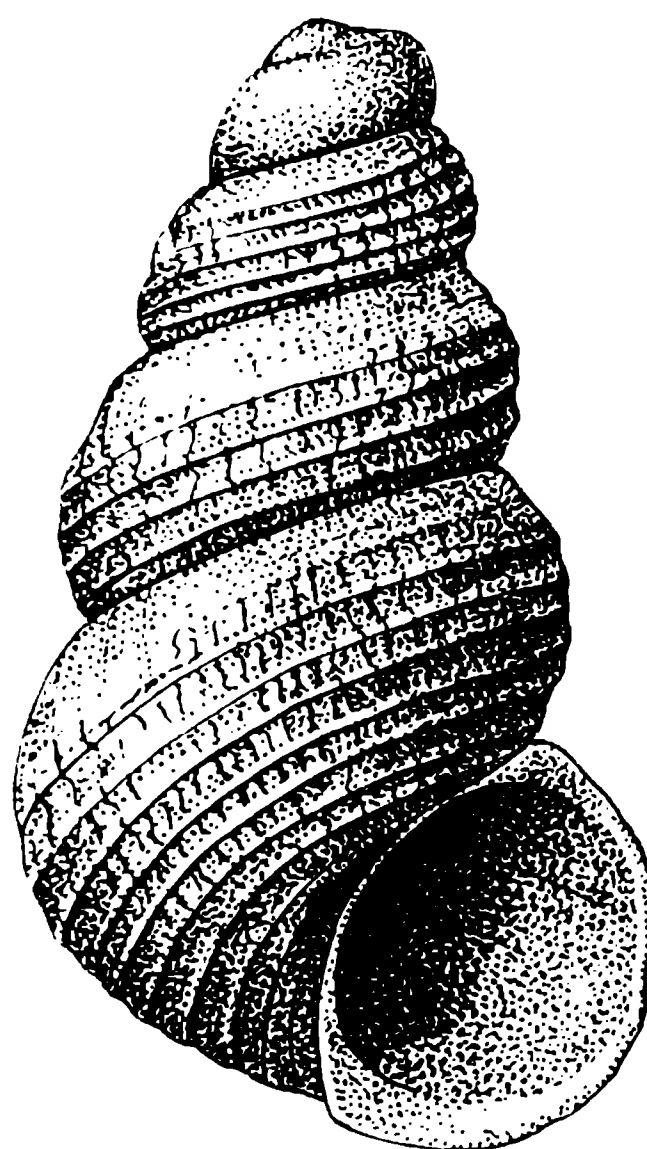
H 4.6 mm, D 3 mm (from the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal species, penetrating the low-arctic waters, found from New Bransweek, Labrador and Norway to Novaya Zemlya.

ECOLOGY. The species lives from the lower horizon of littoral zone to 132 m, on the pebbles, rocky and silty substrates, at temperatures from negative to +6-8°C and at salinity 33.5-34.5‰.

Onoba (Galeodina) morchi
(Collin, 1886)

Fig. 32; 77

FIG. 32. *Onoba (Galeodina) morchi* (Collin, 1886)FIG. 33. *Onoba jeffreysii* (Waller, 1864).

Cingula morchi Collin, 1886: 454, Tab. 40, f. 5;

Cingula morchi— Thiele, 1928: 585, Tab. 1, f. 1.

H 3.1 mm, D 2.5 mm (from the Kara Sea)

DISTRIBUTION. Arctic circumpolar species, distributed in all Polar seas.

ECOLOGY. The species lives at depths from 7 to 170 m, on the silty substrates, at temperatures from negative to +3-5°C and at salinity 30-34.8‰.

Onoba jeffreysii (Waller, 1864)

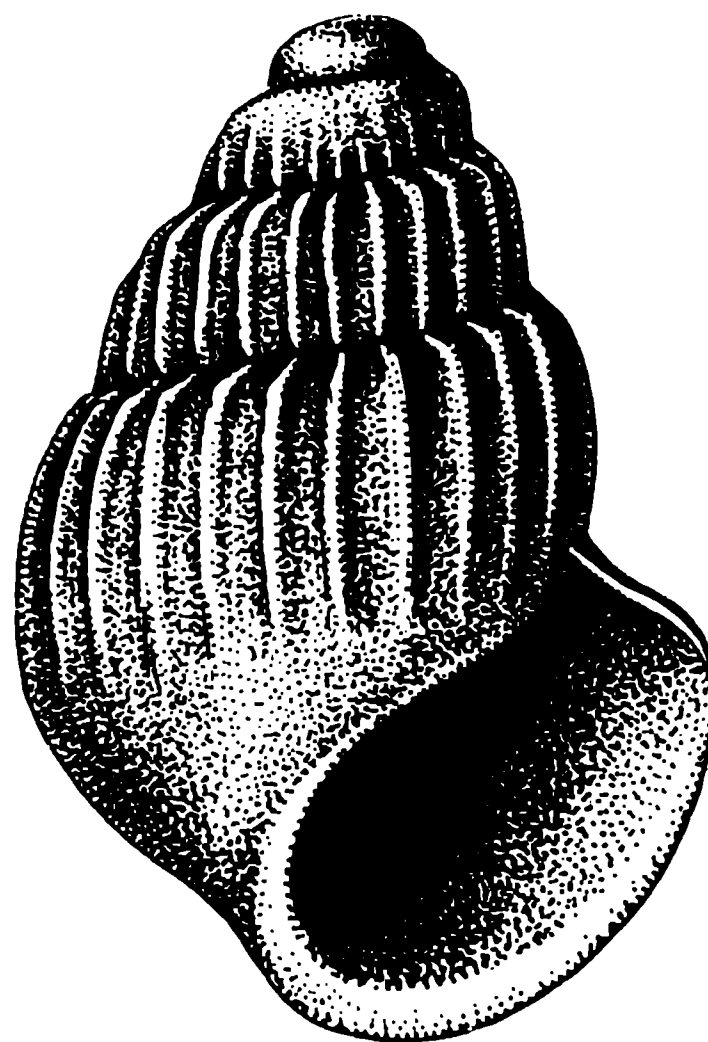
Fig. 33; 77

Rissoa jeffreysii Waller, 1864: 136;

Alvania jeffreysii— G.O. Sars, 1878: 175, Tab. 10, f. 3; Thorson, 1941: 41;

Onoba jeffreysii— Golikov, 1987: 85, f. 36.

H 3.2 mm, D 1.6 mm

FIG. 34. *Onoba verrilli* (Friele, 1886)

DISTRIBUTION. Atlantic European subtropical-boreal species, found from the Mediterranean to the White seas.

ECOLOGY. The species lives at depths from 20 to 565 m, on the silty with gravel and stones substrates, at temperatures from negative to +8°C (in the north of the area) and to +10-12°C (in the south of the area) and at salinity 28-34.5‰.

Onoba verrilli (Friele, 1886)

Fig. 34

Rissoa verrilli Friele, 1886: 27, Tab. 11, f. 5;

Alvania verrilli— Filatova, Zatsepin, 1948: 375, Pl. 97, f. 10;

Arctonia verrilli— Golikov, Scarlato, 1977: 323;

Onoba verrilli— Golikov, 1987: 85-86, f. 37.

H 2.9 mm, D 2 mm (from the Barents and White seas)

DISTRIBUTION. Eurasian arctic species, found from the Greenland, Norwegian, Barents and White seas and adjacent waters.

ECOLOGY. The species lives at depths of 85-1187 m, on the silty substrates, at temperatures from negative to +3°C and at salinity 28.8-35‰.

Genus *SETIA*

H. Adams et A. Adams, 1852

Setia tumidula (G.O.Sars, 1878)

Fig. 35

Cingula tumidula G.O.Sars, 1878: 174, 175, Tab. 10, f. 2;

Setia tumidula— Golikov, Kussakin, 1978: 107-108, f. 67

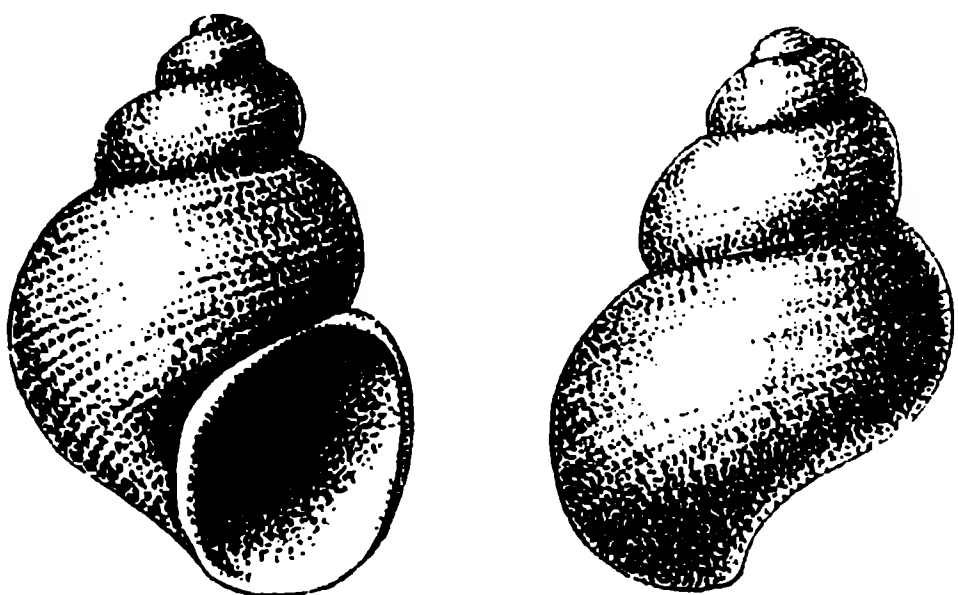


FIG. 35. *Setia tumidula* (G.O.Sars, 1878).

H 1.8 mm, D 1.1 mm (off Eastern Murman)

DISTRIBUTION. Atlantic European upper-boreal species, found from Norway and Kola Peninsula.

ECOLOGY. The species lives within the lower horizon of the littoral and in the upper sublittoral zones, among algae, at temperatures from negative to +10°C and at salinity 28-34‰.

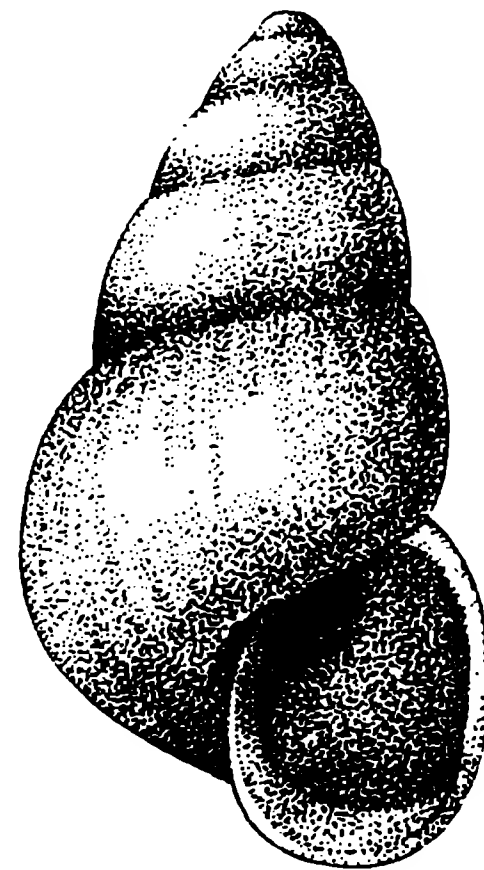


FIG. 36. *Setia latior* (Mighels et Adams, 1842).

Setia latior

(Mighels et A. Adams, 1842)

Fig. 36; 121 B

Cingula latior Mighels, A. Adams, 1842: 48, Pl. 1, f. 22;

Setia latior— Golikov, Kussakin, 1978: 108, Pl. 68; Golikov, 1987: 86-87, f. 38.

H 2.8 mm, D 1.8 mm (from the White Sea)

DISTRIBUTION. Atlantic upper-boreal species, found from New England to the White Sea.

ECOLOGY. The species lives from the littoral zone to 13 m, among algae, at temperatures from negative to 3-18°C and at salinity 24-34.5‰.

Family **HYDROBIIDAE**

Troschel, 1857

Genus *HYDROBIA* Hartmann, 1821

Hydrobia ulvae (Pennant, 1777)

Fig. 37

Turbo ulvae Pennant, 1777: 132, Pl. LXXXI, f. 120;

Hidrobia ulvae— Filatova, Zatsepin, 1948: 375, Pl. 97, f. 1a; Maiveeva, 1974: 128-132, Pl. 22, 23; Golikov, Kussakin, 1978: 102-104, f. 64.

H 7 mm, D 3.8 mm (off Eastern Murman)

DISTRIBUTION. Atlantic widely spread boreal species, found from the English Channel and Cape Cod to the White Sea and Labrador.

ECOLOGY. The species lives within the interval ranging from the littoral zone to depth of 5 m, on algae, marine grass or on the stony and silty substrates, at temperatures from negative to 10°C (in the north of the area) and from 6°C to 24°C (in the south of the area), and at salinity 10-25‰. While breeding, females lay special substance in the form of about 0.6 mm in diameter lenses incrustated with

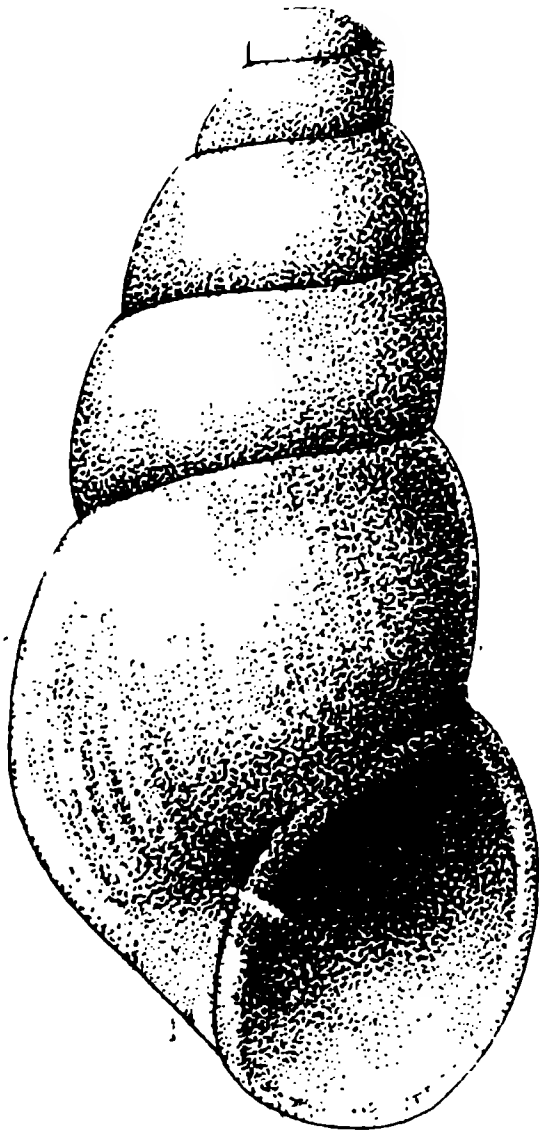


FIG. 37. *Hydrobia ulvae* (Pennant, 1777).

sandy grains, upon algae, stones or shells. Development includes short plankton stage.

Family **RISSELLIDAE** Gray, 1850

Genus *JEFFREYSINA* Thiele, 1925

Jeffreysina globularis (Jeffreys, 1835)

Fig. 38

Jeffreysina globularis Jeffreys in Forbes, Hanley, 1835: 268, 269, Pl. 133, f. 5;

Jeffreysina globularis— Golikov, Kussakin, 1978: 127, 129, f. 82.

H 2.8 mm D 2.8 mm (from the Chupa Bay of the White Sea)

DISTRIBUTION. Atlantic European widely spread boreal species, found from England to the White Sea.

ECOLOGY. The species lives from the littoral zone to 10 m, among algae, at temperatures from negative to 5°C (in the north of the area) and from 8°C to 18°C (in the south of the area) and at salinity 22-33.5‰.

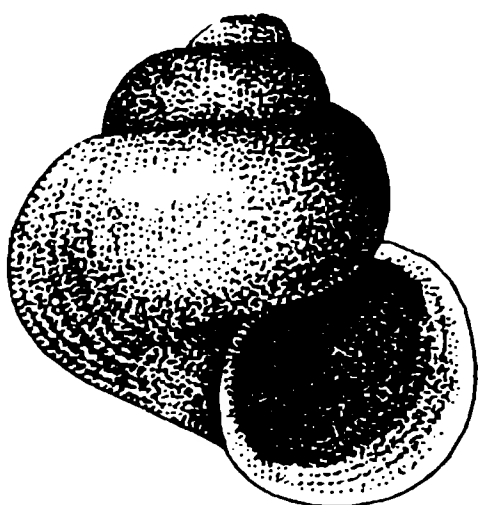


FIG. 38. *Jeffreysina globularis* (Jeffreys, 1835).

Family **SKENEOPSIDAE**

Iredale, 1915

Genus *SKENEOPSIS*

Iredale, 1915

Skeneopsis planorbis

(Fabricius, 1780)

Fig. 39; 121 C-D

Turbo planorbis Fabricius, 1780: 399;

Skeneopsis planorbis— Filatova, Zatsepin, 1948: 375, f. 36; Matveeva, 1974: 136-140, Pl. 26, 27; Golikov, Kussakin, 1978: 129-130, f. 88; Golikov, 1987: 90-91, f. 41.

H 1.3 mm, D 2.5 mm (off Eastern Murman),

DISTRIBUTION. Atlantic widely spread boreal species, found from England to the White Sea in Europe and from Massachusetts to Labrador in Northern America.

ECOLOGY. The species lives from the littoral zone to 75 m, on dense algae sandy, more rarely among *Mytilus edulis* or on the silty-sandy substrates, at temperatures from negative (in the north of the area) and from 6°C to 20°C (in the south of the area) and at salinity 22-34‰.

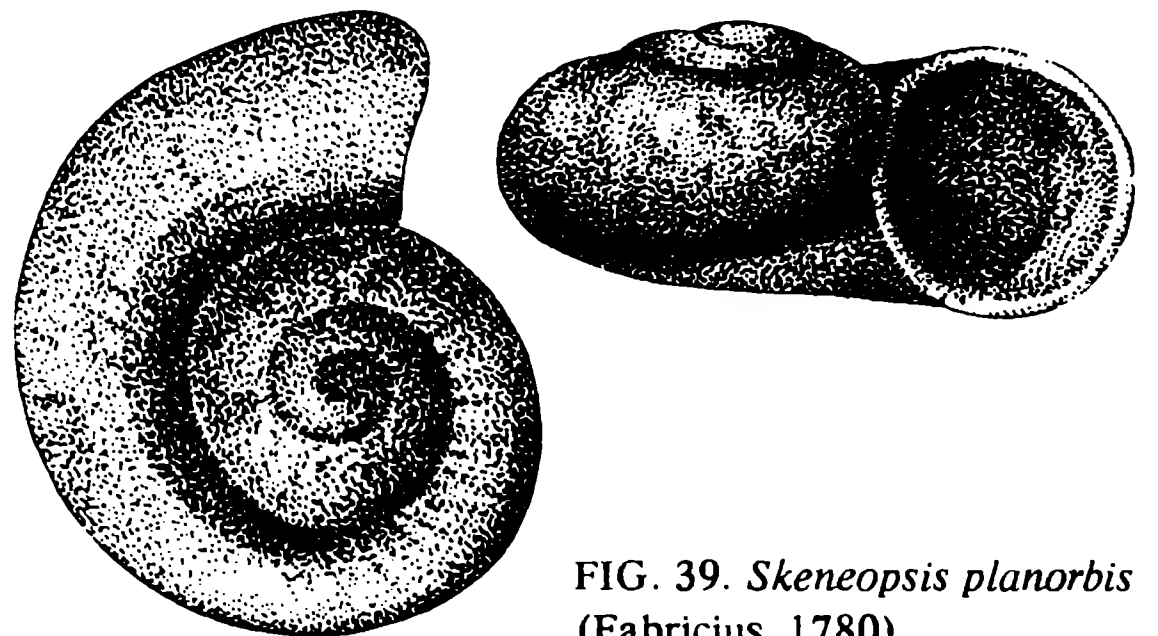


FIG. 39. *Skeneopsis planorbis* (Fabricius, 1780).

Suborder **CALYPTRAEODEI**

Ferussac, 1822

Family **TRICHOTROPIDAE**

Gray, 1850

Genus *TRICHOTROPIS*

Broderip et Sowerby, 1829

Trichotropis bicarinata
(Sowerby, 1825)

Fig. 78; 122 A

Turbo bicarinatus Sowerby, 1825: 12, Pl. 9;

Trichotropis bicarinata— Thorson, 1941: 55; Macpherson, 1971: 41-42, Pl. 3, f. 3, map 18.

H 37 mm, D 30 mm

DISTRIBUTION. Pacific upper-boreal-arctic species occurring from Hokkaido, southern Kurile Islands and British Colombia to the Chuckchee Sea and the adjacent waters of the Pacific sector of Arctic, and from Newfoundland to the Baffin Sea, Greenland and Spitzbergen in the Atlantic sector of Arctic.

ECOLOGY. The species lives at depth from 0 (in the Okhotsk Sea) to 500 m (off Western Greenland), at temperatures from negative to 12°C and at salinity 32-35‰.

Genus *ARIADNARIA* Habe, 1961

Ariadnaria conica (Moeller, 1842)

Fig. 78; 122 E

Trichotropis conica Moeller, 1842: 12;

Trichotropis conica— Macpherson, 46, Pl. 3, fig. 1, map 18

H 17 mm, D 11 mm

DISTRIBUTION. Atlantic arctic species, found from eastern Canada, Greenland, Jan-Mayen, Spitzbergen, in the Barents, Kara and Laptev seas.

ECOLOGY. The species lives at depths from 20 to 550 m, on the rocky, sandy and argillaceous-silty with gravel substrates, at temperatures from negative to 3°C and at salinity of 32-35‰.

Ariadnaria borealis
(Broderip et Sowerby, 1829)

Fig. 78; 122 B-C

Trichotropis borealis Broderip, Sowerby, 1829: 375;

Trichotropis borealis— G.O.Sars, 1878: 163; Thiele, 1928: 590; Thorson, 1941: 44-47, f. 6; Filatova, Zaitsepin, 1948: 376, Pl. 96, f. 15; Macpherson, 1971: 43-45, Pl. III, f. 2, map 19;

Ariadnaria borealis— Golikov, 1986: 72.

H 17.7 mm, D 11.6 mm (from the White Sea)

DISTRIBUTION. Upper-boreal-arctic circum-polar species, found from Cape Cod and Scotland to the Bering Sea and British Colombia.

ECOLOGY. The species lives at depths from 3 m (off Greenland) to 944 m (off Scotland), on the silty with stones substrates, at temperatures from negative (in the north of the area) to +3-6°C (in the south of the area) and at salinity 28-35‰. Development is direct.

Genus *IPHINOE*

H.Adams et A.Adams, 1854

Iphinoe coronata (Gould, 1860)

Fig. 79; 122 D

Trichotropis coronata Gould, 1860: 324;

Iphinoe (Iphinoe) coronata— Golikov, 1986: 23.

H 38 mm, D 27 mm

DISTRIBUTION. Pacific Asian boreal-arctic species, found in the East Siberian, Chuckchee, Bering and Okhotsk seas, Tatar Strait and adjacent waters.

ECOLOGY. The species lives at depths from 7 m (in the East Siberian Sea) to 260 m (in the Bering Sea), on the silty and silty-sandy with gravel substrates, at temperatures from negative to +3°C and at salinity 32.5-33.5‰.

Iphinoe kroyeri (Philippi, 1849)

Fig. 79; 122 G

Trichotropis kroyeri Philippi, 1849: 175;

Trichotropis (Iphinoe) kroyeri— Thiele, 1928: 591,

Iphinoe (Iphinoe) kroyeri— Golikov, 1986: 23.

H 38 mm, D 24,5 mm

DISTRIBUTION. Pacific upper-boreal arctic species, from the Barents, Bering, Okhotsk and all Siberian seas.

ECOLOGY. The species lives at depths from 23 m (in the eastern part of the Barents Sea) to 150 m (in the Okhotsk Sea), at temperatures from negative to 4°C and at salinity 32-34.5‰.

Iphinoe solida (Aurivillius, 1885)

Fig. 79; 122 F

Trichotropis solida Aurivillius, 1885: 328, Tab. 12, f. 16;

Iphinoe (Iphinopsis) solida— Golikov, 1986: 23.

H 36 mm, D 23 mm

DISTRIBUTION. Pacific in its origin upper-boreal- arctic species, found from the eastern part of the Barents Sea, in the siberian seas, in Eastern Kamchatka and northern Kurile Islands.

ECOLOGY. The species lives at depths from 24 m (in the eastern part of the Barents Sea) to 150 m (off northern Kurile Islands) at temperatures from negative to 4°C and at salinity of 32-34‰.

Genus *TORELLIA*

Loven in Jeffreys, 1867

Torellia vestita

Loven in Jeffreys, 1867

Fig. 40

Torellia vestita Jeffreys, 1867: 244., Pl. 4, f. 1, Pl. 79, f. 5;

Torellia vestita— G.O.Sars, 1878: 162, Tab. 22, f. 1, Tab. 18, f. 14; Friele a. Grieg, 1901: 70.

H 19 mm, D 19 mm (from the northward of Spitzbergen)

DISTRIBUTION. Atlantic upper-boreal arctic species, found from New England, in the Norwegian and Greenland seas, northward of Spitzbergen at Faer-Shetland, and to the westward of Ireland.

ECOLOGY. The species lives at depths from 90 m to 2484 m, on the silty with gravels substrates, at temperatures from negative to 3°C and at salinity 34.5-35‰.



FIG. 40. *Torellia vestita* Loven in Jeffreys, 1867

Family VELUTINIDAE Gray, 1842

Genus CAPULACMAEA M.Sars, 1859

Capulacmaea radiata (M.Sars, 1851)

Fig. 41; 80

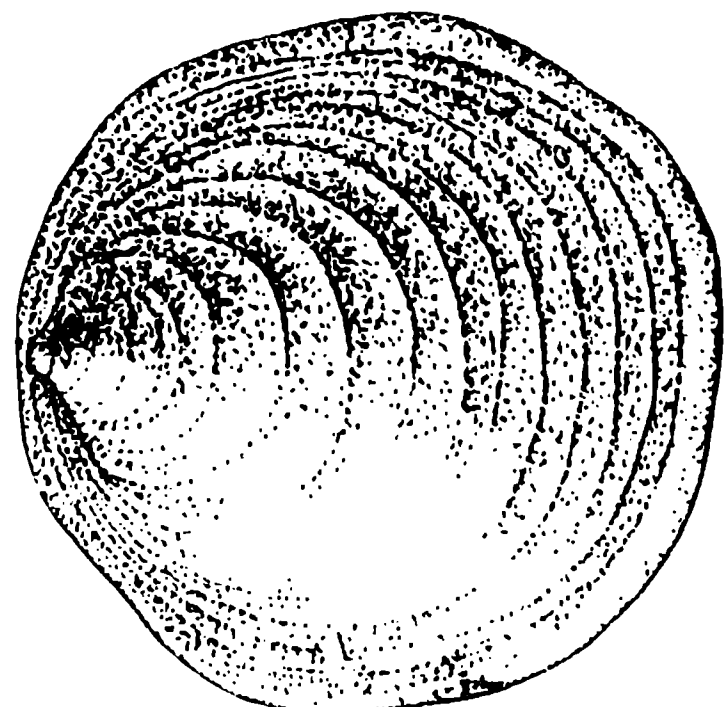
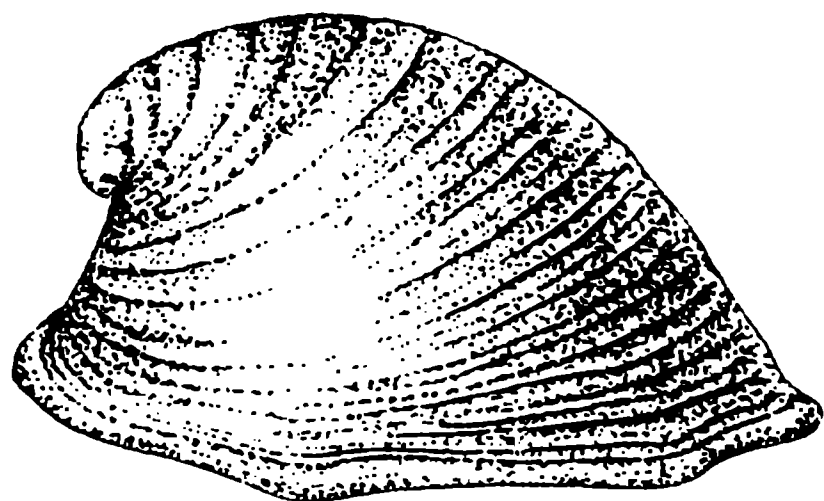


FIG. 41. *Capulacmaea radiata* (M Sars, 1851)

Capulus radiatus M.Sars, 1851: 184;

Pilidium radiatum— G.O.Sars, 1878: 144, Tab. 8, f. 6;

Capulacmaea radiata— Thiele, 1928: 589; Macpherson, 1971: 53, 54, Pl. III, f. 4, 7, map 23.

Maximum length of studied specimens is 34 mm.

DISTRIBUTION. Atlantic Eurasian upper-boreal arctic species, found in the Norwegian, Barents, Kara, and Laptev seas.

ECOLOGY. The species lives at depths from 1 to 660 m, on the sandy and silty with gravels and pebbles substrates, at temperature from negative to 4°C and at salinity 32-35‰.

Genus *LIMNERIA*

H.Adams et A.Adams, 1853

Limneria undata (Brown, 1838)

Fig. 42; 80; 123 A-B

Velutina undata Brown in Smith, 1838: 102;

Velutina undata— Filatova, Zatsepin, 1948: 378, Pl. 98, Pl. 9b; Derjugin, 1950: 9-II, Pl. 1, 2, Tab. I, Pl. I, Tab. IV, Pl. I.

Maximum length—27 mm

DISTRIBUTION. Widely spread boreal-arctic circumpolar species, found from Scotland and Halifax (Canada) to Northern Japan.

ECOLOGY. The species lives at depths from 8 to 1187 m, mainly on the silty substrates, at temperatures from negative to 8°C and at salinity 26-34.8‰.

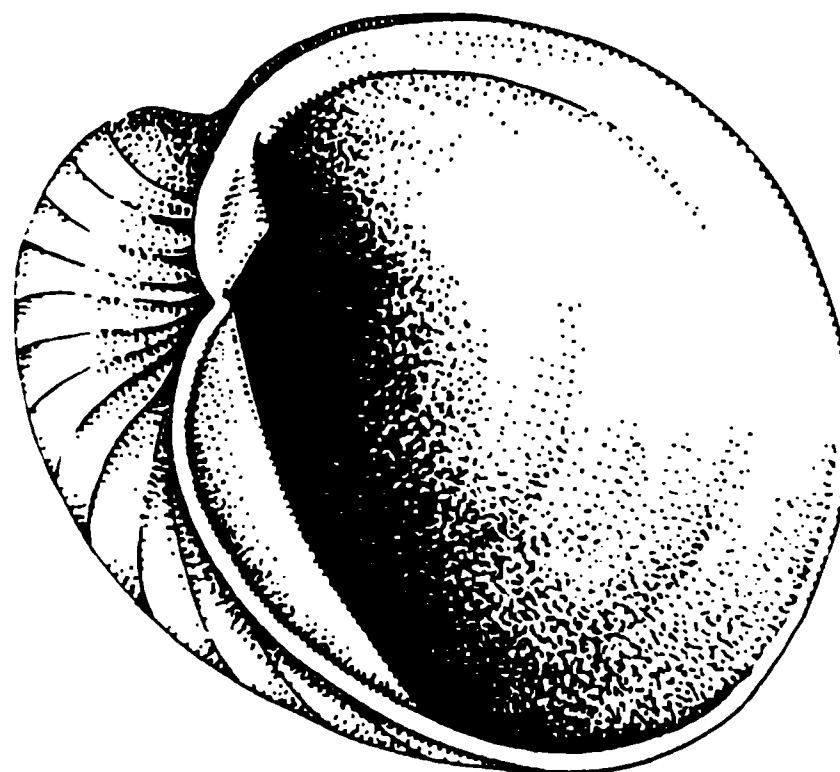
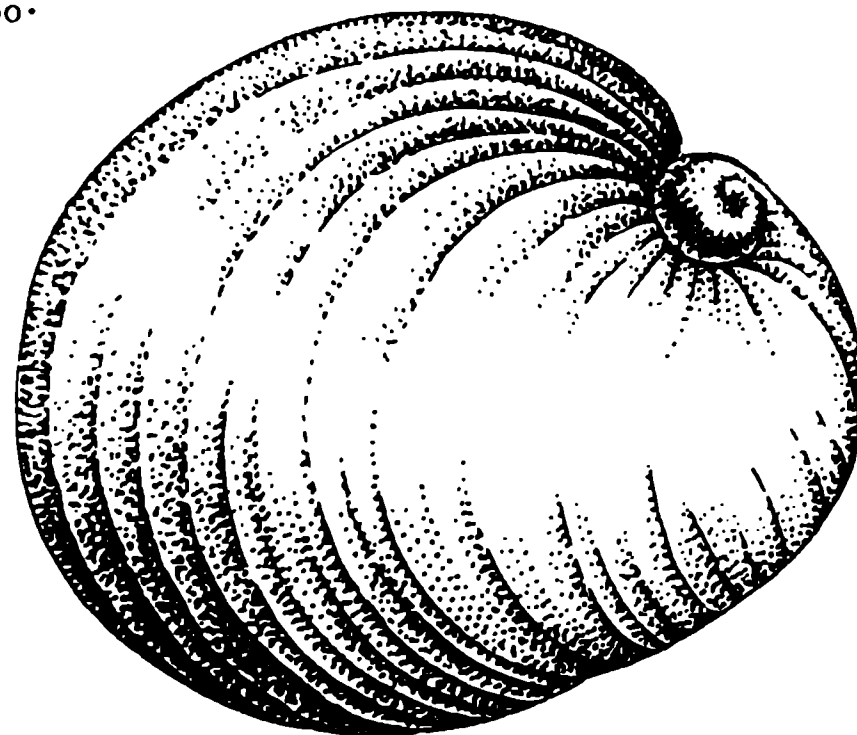


FIG. 42. *Limneria undata* (Brown, 1838).

Limneria insculpta (Odhner, 1913)

Fig. 80; 123 C

Velutina insculpta Odhner, 1913: 11, 58, 81, Pl. 2, f. 11-14, 16, Tab. 5, f. 29;*Velutina insculpta*— Derjugin, 1950: 11-12, Pl. 4, Tab. I, f. 4, 6.

Maximum length—16 mm

DISTRIBUTION. Arctic Eurasian species, found from the Barents, Kara and Laptev seas.

ECOLOGY. The species lives at depths from 54 to 500 m, on the silty with gravel and pebbles substrates, at temperatures from negative to 3°C and at salinity 30-34.5‰.

Genus *CILIATOVELUTINA*

Golikov et Gulbin, 1991

Ciliatovelutina lanigera (Moeller, 1842)

Fig. 43; 81

Velutina lanigera Moeller, 1842: 10;*Velutina lanigera*— G.O.Sars, 1878: 146, Tab. 12, f. 3; Thiele, 1928: 590; Derjugin, 1950: 13-14, f. 7, Pl. I, f. 7, Pl. VI, f. 7.

Maximum length—34 mm

DISTRIBUTION. Pacific widely spread boreal-arctic species, found from south Kurile Islands to the Norwegian Sea.

ECOLOGY. The species lives at depths from 10 to 500 m, on the sandy and silty with rocks, pebbles and gravel substrates, at temperature from negative to 12°C and at salinity 32-34‰.

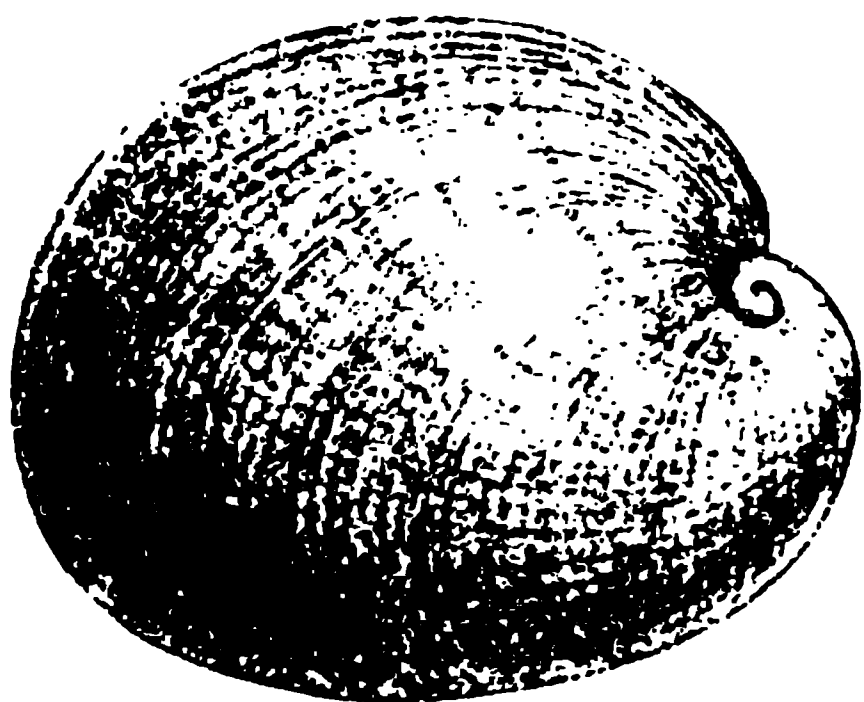
FIG. 43. *Ciliatovelutina lanigera* (Moeller, 1842).Genus *VELUTINA* Fleming, 1821*Velutina velutina* (Mueller, 1776)

Fig. 81; 123 D-E

Bulla velutina Mueller, 1776: 242;*Velutina velutina*— Thiele, 1928: 589; Filatova, Zatsepin, 1948: 377, Pl. 98, f. 8 a, b; Derjugin, 1950: 19-20, f. 15, Pl. II, f. 15, Pl. V, f. 15; Macpherson, 1971: 51, Pl. II, f. 6, map 22; Golikov, 1987: 99, f. 44.

Length of shell—37 mm

DISTRIBUTION. Boreal arctic circumpolar species, found in the Okhotsk and Bering seas and adjacent waters, and from Vancouver to Mediterranean Sea.

ECOLOGY. The species lives at depths from 7 to 1000 m (in the western part of the Mediterranean Sea) and 2440 m (off northern Kurile Islands), mainly on the silty substrates, at temperatures from negative to 12°C and at salinity 26-35‰.

Velutina schneideri Friele, 1886

Fig. 81; 123 F

Velutina schneideri Friele, 1886: 26, Pl. 11, f. 3-4;*Velutina schneideri*— Derjugin, 1950: 20-21, Pl. 16, Tab. III, f. 16, Tab. V, f. 16.

Maximum length—17 mm

DISTRIBUTION. Pacific upper-boreal arctic species, found off northern Kurile Islands and in the Polar seas.

ECOLOGY. The species lives at depths from 7 to 350 (in the Kara Sea), on the silty-sandy with stones substrates, at temperatures from negative to 3-6°C and at salinity 32-33.5‰.

Genus *VELUTELLA* Gray, 1847*Velutella plicatilis* (Mueller, 1776)

Fig. 82; 123 G-H

Bulla plicatilis Mueller, 1776: 242;*Velutina plicatilis*— G.O.Sars, 1878: 148, Tab. 148, f. 8; Thiele, 1928: 590; Filatova, Zatsepin, 1948: 378, Pl. 98, f. IIb; Golikov, 1987: 94-95, Pl. 45.

Maximum length—28 mm

DISTRIBUTION. Pacific widely spread boreal-arctic species, found in the Japan, Okhotsk and Bering seas and adjacent waters, and in the Polar seas.

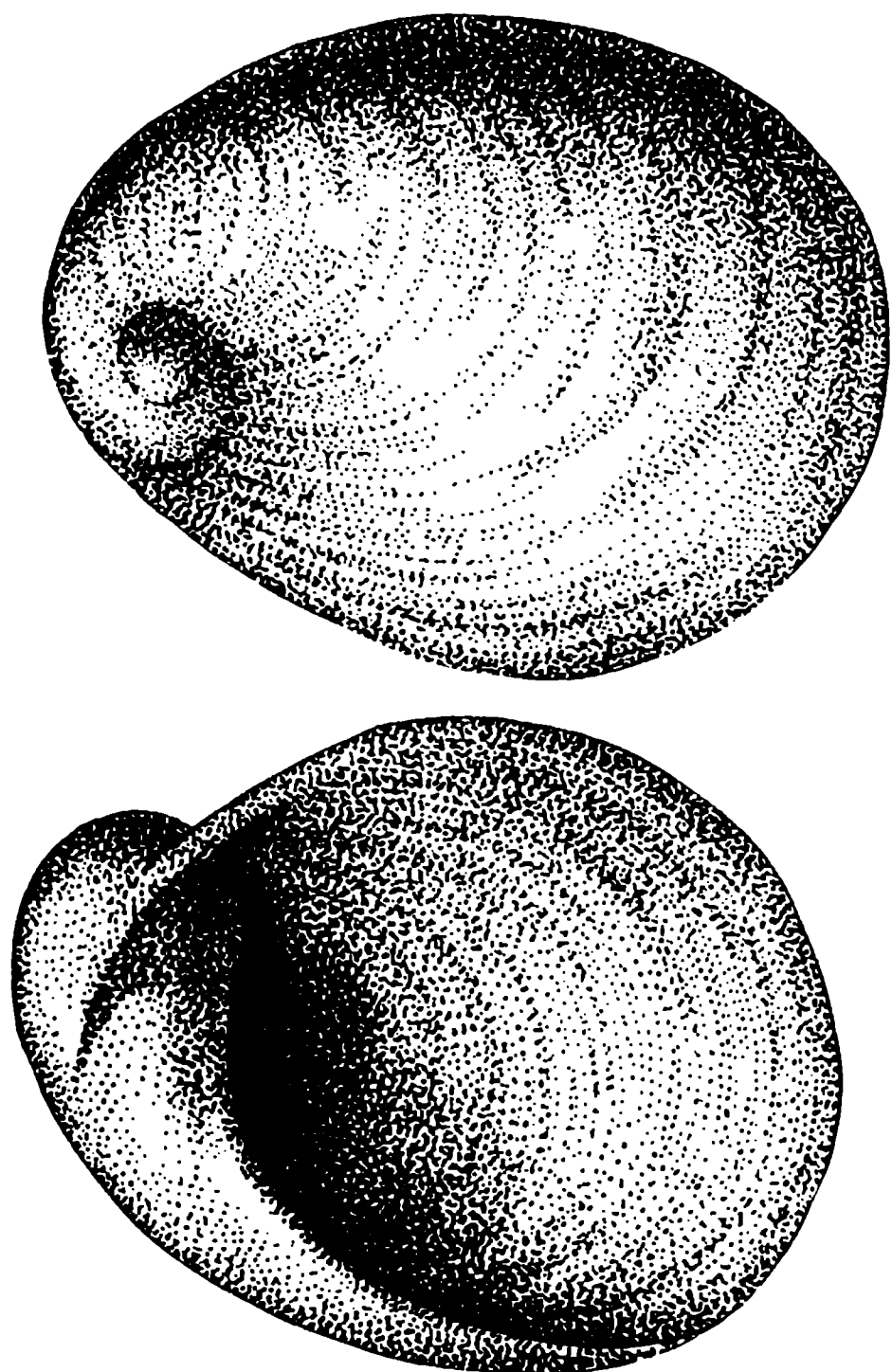
ECOLOGY. The species lives at depths from 5 to 377 m, on the silty with stones substrates, at temperatures from negative to 2-8°C and at salinity 25-34‰.

Genus *MARSENINA* Gray, 1850*Marsenina glabra* (Couthouy, 1838)

Fig. 44; 82; 123 I

Oxinoe glabra Couthouy, 1838: 92, Pl. 3.

Maximum length—18 mm

FIG. 44. *Marsenina glabra* (Couthouy, 1838).

DISTRIBUTION. Arctic upper-boreal, almost circumpolar species, found to the Massachusetts Bay in the Northern Atlantic.

ECOLOGY. The species lives at depths from 32 m (in the White Sea) to 1232 m (off Norway), mainly on the stones, at temperatures from negative to 2-8°C and at salinity 26-34.5‰.

Genus *ONCHIDIOPSIS* Bergh, 1853

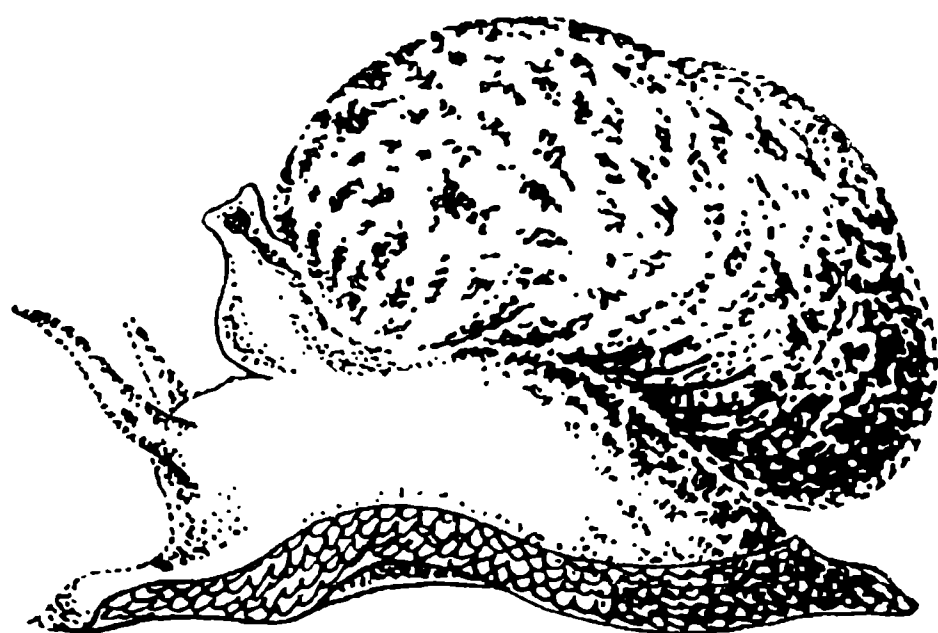
Onchidiopsis (Onchidiopsis)
groenlandica (Bergh, 1853)

Fig. 45; 82

Onchidiopsis groenlandica Bergh, 1853: 346, Tab. 2;

Onchidiopsis groenlandica— Thiele, 1928: 590; Derjugin, 1937: 10-11, Pl. I, III, IV, v, f. 2; Thorson, 1941: 68; Macginitie, 1953: 92-93.

body length— 50 mm, width—43 mm, heights—34 mm

FIG. 45. *Onchidiopsis (O.) groenlandica* Bergh, 1853).

3 1-1244

DISTRIBUTION. Pacific boreal-arctic almost circumpolar species, found from Japan Sea to Norway.

ECOLOGY. The species lives at depths from 5 to 365 m, on the stony substrates, at temperatures from negative to 8°C and at salinity 32-34‰.

Onchidiopsis (Rostroonchidiopsis)
glacialis (M.Sars, 1851)

Fig. 46; 83

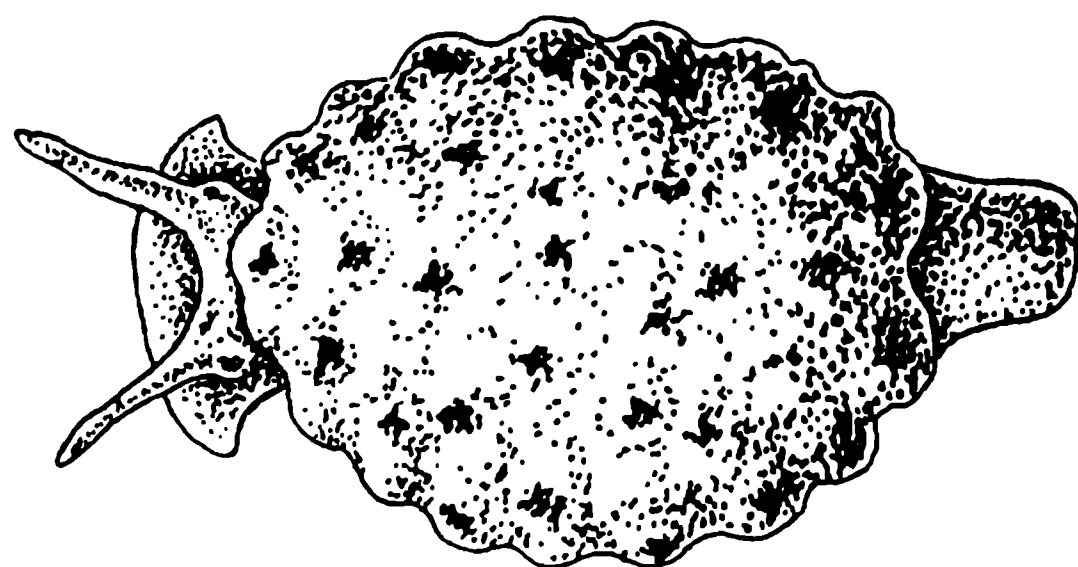
Lamellaria glacialis M.Sars, 1851: 185;

Onchidiopsis glacialis— G.O.Sars, 1878: 153, Tab. 12, f. 6; Odhner, 1913: 73, Tab. 2, f. 17, 18, 23, 24, Tab. 5, f. 3, 5, 32, 33; Derjugin, 1937: 8-10, Pl. 3-5, f. 1; Macginitie, 1959: 92-93.

body length—33.6 mm, width—26 mm, heights—26 mm.

DISTRIBUTION. Pacific upper-boreal arctic species, found in the Okhotsk and Bering seas and adjacent waters, and in the Polar seas.

ECOLOGY. The species lives at depths from 11 to 134 m, on the sandy and silty-sandy with pebbles and gravel substrates, at temperatures from negative to 6°C and at salinity of 32-33.5‰.

FIG. 46. *Onchidiopsis (R.) glacialis* (M.Sars, 1851).

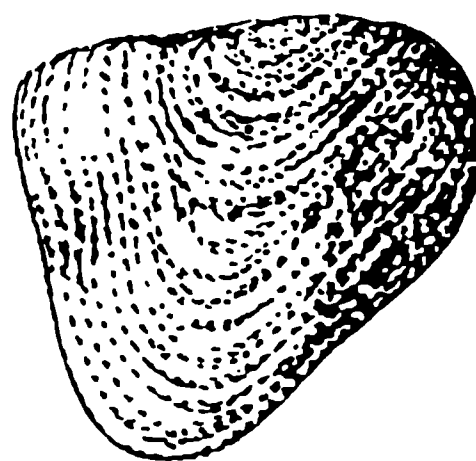
Onchidiopsis (Rostroonchidiopsis)
platissima Odhner, 1913

Fig. 47; 83

Onchidiopsis platissima Odhner, 1913: 75, Tab. 2, f. 20-22, Tab. 5, f. 2, 3, 4;

Onchidiopsis platissima— Thiele, 1928: 590; Derjugin, 1937: 11-12, Pl. 3-5, Pl. 3.

body length—28.5 mm, width—21 mm, heights—17.5 mm.

FIG. 47. *Onchidiopsis (R.) platissima* Odhner, 1913.

DISTRIBUTION. Mainly arctic species, found from the northern part of the Bering Sea to Greenland and Spitzbergen.

ECOLOGY. The species lives at depths from 28 to 500 m, on the mixed substrates, from the silty-argillaceous to gravels; at temperatures from negative to 3°C and at salinity of 32.4-33.3‰.

Suborder NATICIDOIDEI Gray, 1847

Family NATICIDAE Forbres, 1838

Genus AMAUOPSIS Morch, 1857

Amauopsis islandica (Mueller, 1776)

Fig. 83; 124 A

Nerita islandica Muelier, 1776: 295;

Amauopsis islandica— G.O.Sars, 1878: 156, Tab. 21, f. 17; Theile, 1928: 589, Thorson, 1941: 58-59;

Acrybia (Amauopsis) islandica— Filatova, Zatsepin, 1948: 377, Tab. 98, f. 4.

H 43.4 mm, D 33.5 mm (from the eastern part of the Barents Sea)

DISTRIBUTION. Atlantic boreal-arctic circumpolar species, found in the Anadyr Bay, off Massachusetts and South England.

ECOLOGY. The species lives at the littoral zone (in the White Sea) to 1267 m (off Newfoundland), on the silty-sandy with stones and pebbles substrates, at temperatures from negative to 3°C and at salinity 20-34.5‰.

Genus BULBUS Brown in Smith, 1839

Bulbus smithi Brown, 1839

Fig. 84; 124 B

Globulus smithi Brown in Smith, 1839: 104;

Ampullina smithi— G.O.Sars, 1878: 155-156, Tab. 12, f. 2a, b, Tab. 21, f. 18;

Acrybia flava— Odhner, 1913: 46, Tab. 1, f. 26, 28;

Acrybia glacialis— Macpherson, 1971: 54, map 24;

Bulbus smithi— Golikov, Sirenko, 1988: 10-11, f. 7, 24.

H 22 mm, D 20.3 mm (from the Barents Sea)

DISTRIBUTION. Upper-boreal arctic almost circumpolar species, found from New England to the eastern part of the Barents Sea and in the Bering and Okhotsk seas and off northern Kurile Islands.

ECOLOGY. The species lives at depths from 30 to 6000 m, mainly on the silty substrates, which often with gravel and pebbles, at temperatures from negative to 2-9°C (in the south of the area) and at salinity 32.4-35‰.

Genus PSEUDOPOLINICES

Golikov et Sirenko, 1983

Pseudopolinices nanus

(Moeller, 1841)

Fig. 48; 84

Natica nana Moeller, 1842: 7;

Lunatia nana— G.O.Sars, 1878: 159, Tab. 21, f. 16 a, b;

Polynices nanus— Filatova, Zatsepin, 1948: 377, Pl. 98, f. 3;

Pseudopolinices nanus— Golikov, Sirenko, 1988: 12-13, f. 26-48.

H 17.3 mm, D 14.8 mm (off California)

DISTRIBUTION. Amphiboreal species, which reach subtropical waters on the large depth. found from eastern part of the Barents Sea and southwestern Greenland to New Scotland and Portugal and from the southern part of the Bering Sea to the Peter Great Bay and San Diego (California).

ECOLOGY. The species lives at depths from 0 m (off Norway) to 1710 m (in Gasken Bay), mainly on the sandy, shell-debris and gravel substrates, at temperatures from negative to 6-10°C (in the south of the area) and at salinity 28-35‰.

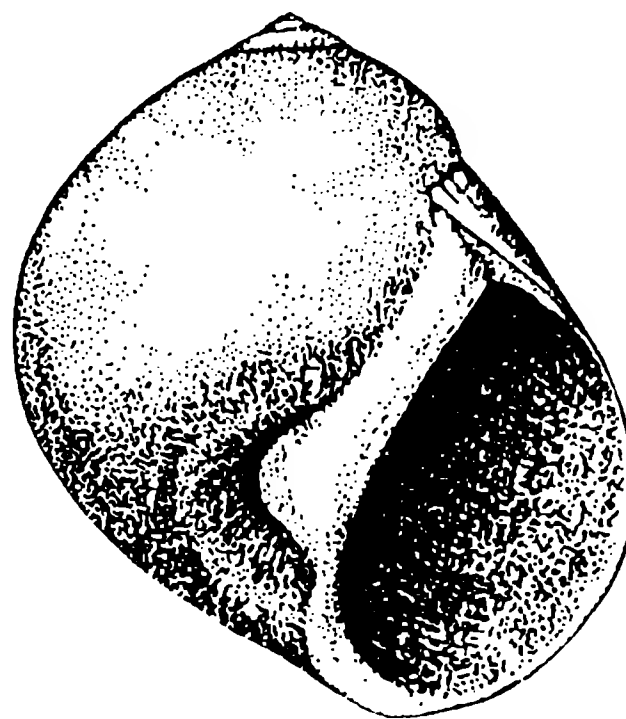


FIG. 48. *Pseudopolinices nanus* (Moeller, 1841).

Genus LUNATIA Gray, 1847

Lunatia pallida

(Broderip et Sowerby, 1829)

Fig. 84; 124 C

Natica pallida Broderip et Sowerby, 1829: 372;

Lunatia groenlandica— Filatova, Zatsepin, 1948: 377, Pl. 97, Pl. 2;

Lunatia pallida— Macpherson, 1971: 58-59, Pl. 3, f. 8, map 26; Golikov, Sirenko, 1988: 16, f. 12, 13.

H 54.3 mm, D 46.7 mm (from the Anadyr Bay of the Bering Sea, at depth of 98 m)

DISTRIBUTION. Widely spread boreal-arctic circumpolar species, found to Belgium and Hatteras and to Northern Japan, Possiet Bay and Vancouver.

ECOLOGY. The species lives at depths from 0 m to 2430 m (off Hatteras), on the silty and sandy substrates, at temperatures from negative to 2-13°C (in the south of the area) and at salinity 23-34.5‰.

Lunatia tenuistriata
(Dautzenberg et Fischer, 1911)

Fig. 85; 124 D

Natica tenuistriata Dautzenberg et Fischer, 1911 26, Pl. 1, f. 1-3;

Lunatia tenuistriata— Odhner, 1913: 40, Pl. 4, f. 9-19, Pl. 5, f. 19; Golikov, Sirenko, 1988: 16, 17, f. 14, 34;

Polynices (Lunatia) tenuistriata— Thiele, 1928: 588.

H 38 mm, D 34 mm (off Wrangel Island)

DISTRIBUTION. Arctic circumpolar species, from all Polar seas.

ECOLOGY. The species lives at depths from 20 to 100 m, on the sandy, silty and shell-debris substrates, at temperature from negative to 0-3°C and at salinity 32-33.5‰.

Genus *CRYPTONATICA* Dall, 1892

Cryptonatica clausa
(Broderip et Sowerby, 1829)

Fig. 49; 85; 124 E

Natica clausa Broderip et Sowerby, 1829: 372;

Natica clausa— G.O.Sars, 1878: 159-160, Pl. 21, f. 12a, b, 13; Macpherson, 1971 56-58, Pl. 3, f. 9, map 25;

Natica (Cryptonatica, Tectonatica) clausa— Filatova, Zatspein, 1948: 376, 377, Tab. 98, f. 1a,e;

Cryptonatica clausa— Golikov, Sirenko, 1988: 22, f. 18, 41.

H 59 mm, D 48.7 mm (from the Bering Sea, at depth of 74 m)

DISTRIBUTION. Widely spread circumpolar boreal-arctic species, found to Portugal and Hatteras in the Atlantic and to Northern Japan and San Diego (California) in the Pacific.

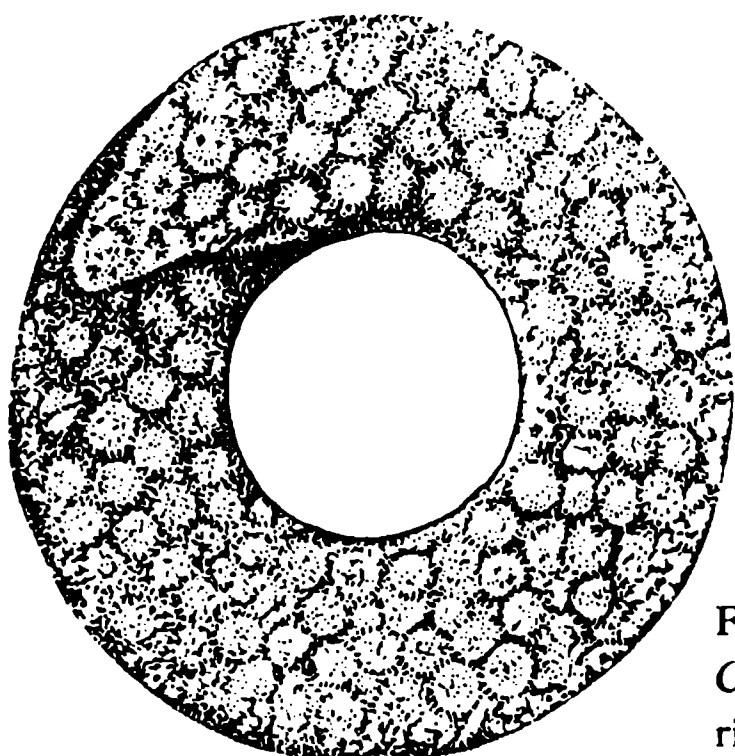


FIG. 49. Egg capsules of *Cryptonatica clausa* (Broderip et Sowerby, 1829).

ECOLOGY. The species lives from the lower horizon of the littoral zone (in the White Sea) to depth of 2660 m (off Portugal), mainly on the silty-sandy and silty substrates, at temperatures from negative to +4-16°C (in the south of the area) and at salinity of 23-35‰.

Cryptonatica septentrionalis
(Mueller, 1842)

Fig. 85; 124 F

Natica septentrionalis Mueller, 1842: 7;

Natica clausa— non Broderip et Sowerby, Odhner, 1913: 14-23 (part), Pl. 1, f. 2, 7, 11, Pl. 3, f. 7, 10, Pl. 5, f. 10, 14;

Cryptonatica septentrionalis— Golikov, Sirenko, 1988: 23-24, f. 21, 47.

H 32.8 mm, D 28.6 mm (from the north-western part of the Barents Sea)

DISTRIBUTION. Arctic almost circumpolar species.

ECOLOGY. The species lives at depth from 10 to 1444 m, mainly on silty with stones and shell-debris substrates, at temperature from negative to 3°C and at salinity 30-35‰.

Cryptonatica bathybia (Friele, 1879)

Fig. 85; 124 G

Natica bathybia Friele, 1879: 272;

Natica bathybia— Friele, Grieg, 1900: 70; Odhner, 1913: 24, Pl. 3, f. 4, 19; Golikov, Sirenko, 1988: 20-21, f. 39, 50.

H 10.2 mm, D 10.2 mm (from the East Siberian Sea, at depth about 863 m)

DISTRIBUTION. Arctic bathyal species, known from the Norwegian, Greenland, Barents, Kara, Laptev and East Siberian seas.

ECOLOGY. The species lives at depths from 863 m to 2426 m (in the Norwegian Sea), on silty with stones and gravel substrates, at temperature from negative to 2.5°C and at salinity about 35‰.

Order *BUCCINIFORMES*
Ferussac, 1822

Family *ANACHIDAE*
Golikov et Starobogatov, 1975

Genus *ASTYRIS*
H.Adams et A.Adams, 1853

Astyris rosacea (Gould, 1840)

Fig. 50; 86

Buccinum rosaceum Gould, 1840: 197;

Pyrene rosacea— G.O.Sars, 1878: 251-252, Pl. 16, f. 1;

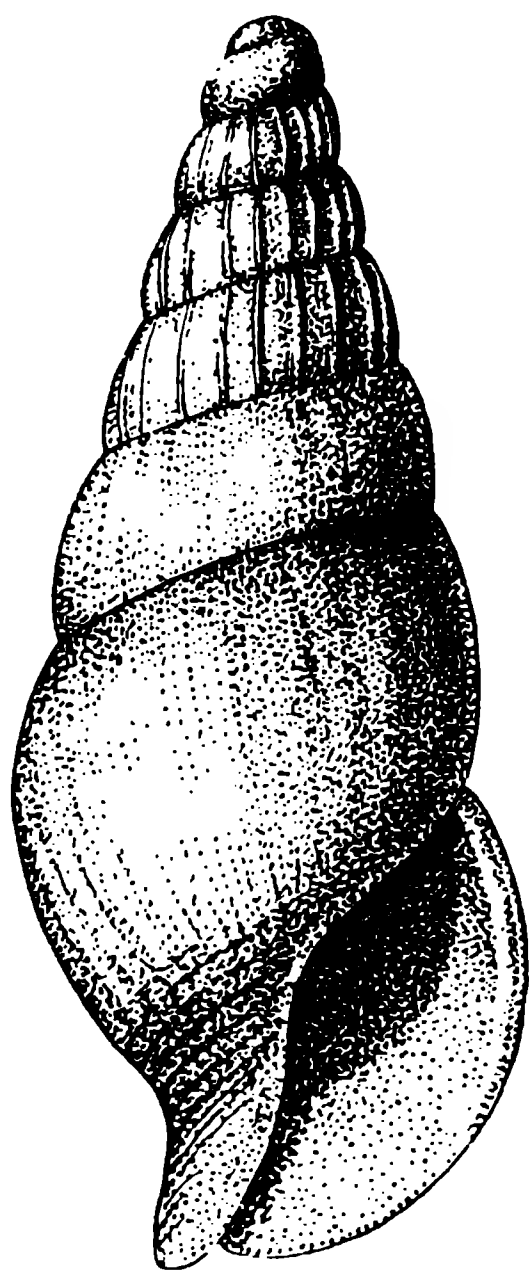


FIG. 50. *Astyris rosacea* (Gould, 1840).

Columbella (Astyris) rosacea— Filatova, Zatsepin, 1948: 380, Pl. 98, f. 15;

Astyris rosacea— Macpherson, 1971: 64, Pl. 2, f. 15, map 29; Golikov, 1987: 103-104, f. 52.

H 9.3 mm, D 4 mm (from Kandalakscha Bay in the White Sea, at depth about 50 m)

DISTRIBUTION. Boreal-arctic, almost circum-polar species, found to Western Norway and Cape Cod in the Atlantic and in the Bering Sea.

ECOLOGY. The species lives at depths from 1 m (off Spitzbergen) to 178 m (off the Cape Cod), mainly on the silty substrates with gravels and stones, at temperatures from negative to 4-8°C (in the south of the area) and at salinity 27-34.5‰.

Family **BERINGIIDAE**

Golikov et Starobogatov, 1975

Genus *BERINGIUS* Dall, 1879

Beringius turtoni (Bean, 1834)

Fig. 86; 124 J

Fusus turtoni Bean, 1834: 491, f. 61;

Chrysodomus turtoni— G.O.Sars, 1978: 269-270, Tab. 14, f. 3, Tab. 25, f. 9-10;

Jumala turtoni— Friele 1882: 6-7, Pl. IV, f. 4-7;

Beringius turtoni— Filatova, Zatsepin, 1948: 384, Pl. 101, Pl. I.

H 120 mm (from the Barents Sea), usually shell height is 98 mm and diameter—50 mm.

DISTRIBUTION. Atlantic widely spread species, found from England and Newfoundland to southern and central part of the Barents Sea.

ECOLOGY. The species lives at the depths from 9 m (western Greenland) to 1267 m (in the northern Atlantic), predominantly on the silty with pebbles and stones substrates, at temperatures 2-6°C and at salinity 32-35‰. Like other representatives of the family, while reproducing females lay large individual cake-like egg-capsules, attached to the substrates with a small stalk. Development direct.

Beringius ossiani (Friele, 1879)

Fig. 86; 124 H-I

Neptunea ossiani Friele, 1879: 279;

Jumala ossiani— Friele, 1882: 7-8, Pl. 11, f. 1-6, Pl. 24, f. 1-3;

Chrysodomus ossiani— Thorson, 1941: 86; 1944: 85-86;

Beringius ossiani— Filatova, Zatsepin, 1948: 384, Pl. 101, f. 2; Macpherson, 1971: 67-68, Pl. 4, f. 2, 4, map. 29.

H 110 mm, D 58 mm (from the Barents Sea)

DISTRIBUTION. Atlantic arctic species, found in the Norwegian, Greenland and Barents seas.

ECOLOGY. The species lives at depths from 23 m (off eastern Greenland) to 1447 m (in the northern part of the Greenland Sea), mainly on the silty substrates with stones and pebbles, at temperatures from negative to 3°C and at salinity 33-35‰.

Genus *BERINGION* Habe et Ito, 1965

Beringion stimpsoni (Gould, 1860)

Fig. 125 A

Buccinum stimpsoni Gould, 1860: 325;

Strombella malleata— Dall, 1885: 525;

Beringius malleatus— Dall, 1925: 5, Pl. 6, f. 5;

Beringius stimpsoni— Dall, 1925: 6, Pl. 7, f. 2;

Beringius stimpsoni var *malleatus*— Macpherson, 1959: 115-117, Pl. 134, f. 1, 2.

H 107 mm, D 43 mm (from the Okhotsk Sea)

DISTRIBUTION. Pacific widely spread boreal species, found from the northern part of the Japan Sea to Pribiloff Islands and southern part of the Chuckchee Sea.

ECOLOGY. The species lives at depths from 50 m to 207 m, on the silty-sandy substrates, at temperatures from negative to 6°C and at salinity 31-33‰.

Beringion beringii (Middendorff, 1849)

Fig. 86; 125 B-C

Tritonium (Fusus) beringii Middendorff, 1849: 243;

Volutopsius beringi— Dall, 1921: 89;

Beringius beringi— MacGinitie, 1959: 117-119, Pl. 12, f. 1-6;

Beringion beringi— Habe, Ito, 1965: 58, Pl. 17, f. 5.

H 68 mm, D 37 mm (from the Laptev Sea)

DISTRIBUTION. Pacific American-asian boreal-arctic species, from the Bering, Chukchee, East Siberian, Laptev and Beafort seas.

ECOLOGY. The species lives at depths from 7 to 179 m, on the silty substrates with gravels and stones, at temperatures from negative to 6°C and at salinity 30-33.5‰.

Family BUCCINIDAE

Rafinesque, 1815

Subfamily VOLUTOPSIINAE

Habe et Sato, 1972

Genus *VOLUTOPSIUS* Moersch, 1857

Volutopsius norvegicus (Gmelin, 1790)

Fig. 87; 126 D-E

Strombus norvegicus Gmelin, 1790: 3520;

Volutopsius norvegica— G.O.Sars, 1878: 268, Tab. 15, f. 1a;

Volutopsius norvegicus— Filatova, Zatsepin, 1948: 384, Pl. 100, f. 9; Macpherson, 1971: 69, Pl. IV, f. 5,7, map 30;

Volutopsius norvegicus— Kantor, 1990: 85-90, Pl. 17, 19, 28a-6, 54a-6, 58a-c, 62-65, Pl. I.

H 98.5 mm, D 49 mm (from the northern part of the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal-arctic, almost circumpolar species.

ECOLOGY. The species lives at depths from 15 m (in Arctic Canada) to 1.267 m (off Newfoundland), on the silty-sandy and silty substrates with stones and gravels, at temperatures from -2°C to +2.46°C and at salinity 32-34.96‰. While reproducing, females lay lenticular egg capsules 20-77 mm in diameter, in which from 1 to 4 embryos are developing. Development is direct.

Genus *HABEVOLUTOPSIUS*

Kantor, 1983

Habevolutopsius hirasei (Pilsbry, 1907)

Fig. 87; 126 C

Volutopsis hirasei Pilsbry, 1907: 243, Pl. 19, f. 2;

Habevolutopsius hirasei— Kantor, 1990: 142-146, Pl. 40, 98, 99, Tab. XII.

H 67 mm, D 33 mm

DISTRIBUTION. Pacific widely boreal species, which reaches the low Arctic waters, found from Northern Japan to the Chuckchee Sea.

ECOLOGY. The species lives at depths from 40 m (in the Bering Sea) to 482 m (off Honsu), on the silty substrates with stones and gravels, at temperatures from negative to 8°C and at salinity 32-33.5‰.

Genus *PYRULOFUSUS* Moersch, 1869

Pyrulofusus deformis (Reeve, 1847)

Fig. 87; 126 A-B

Fusus deformis Reeve, 1847: Pl. XII, fig. 45a, 45b;

Pyrulofusus deformis— Filatova, Zatsepin, 1948: 385, Pl. 100, f. 10; Macginitie, 1959: 114, Pl. 13, f. 3-5; Kantor, 1990: 156-161, Pl. 44a-e, 105-108, Pl. XIV, f. 1-4.

H 144.4 mm, D 82.5 mm (from the Okhotsk Sea)

DISTRIBUTION. Pacific boreal-arctic species, found from Hokkaido to the Bering Sea, in Polar seas and north-western Atlantic.

ECOLOGY. The species lives at depths from 14 m (off Novaya Zemlya) to 170 m (to the south-westward of Spitzbergen), on the silty-sandy and silty with pebbles and stones substrates, at temperatures from negative to 8-12°C and at salinity 32.5-34.5‰. While reproducing, females lay individual semi-spherical egg capsules, 21-24 mm in height and 24-27 mm in diameter. At the capsule base there is a thin rim by means of which it is fastened to the substrate. Each capsule contains 2-4 embryos. Development is direct.

Subfamily NEPTUNINAE

Troschel, 1869

Genus *NEPTUNEA* Roding, 1798

Neptunea ventricosa (Gmelin, 1789)

Fig. 88; 127 A

Buccinum ventricosum Gmelin, 1789: 3498.

Neptunea borealis— non Philippi: Filatova, Zatsepin, 1948: 386, Pl. 100, f. 8;

Neptunea satura— Golikov, 1963: 161-166, f. 2b, 5, 34, 54, 71, 94, Pl. 23, f. 2, Pl. 24;

Neptunea ventricosa— Golikov, 1987: 107, f. 55.

H 112 mm, D 68 mm

DISTRIBUTION. Pacific upper-boreal-arctic circumpolar species, found from Northern Kurile Islands and Alaska to eastern part of the Barents Sea.

ECOLOGY. The species lives at depths from 13 m (in the Kara Sea) to 245 m (in the eastern part of the Barents Sea), on the sandy and silty-sandy with stones and shell-debris substrates, at temperatures from negative to 8°C and at salinity 28-35‰.

Neptunea communis communis
(Middendorff, 1849)

Fig. 88; 127 C, D

Tritonium (Fusus) antiquum var. *communis* Middendorff, 1849: 131, 133-134, Tab. V, f. 3-6;

Neptunea communis communis— Golikov, 1963: 172-175, Pl. 37, 57, 73, 97, Pl. 27; Golikov, 1987: 107-108, f. 56.

H 67 mm, D 42 mm (from the Kara Sea)

DISTRIBUTION. Arctic circumpolar subspecies of the upper-boreal-arctic Pacific by origin species, found to the northern part of the Bering Sea.

ECOLOGY. The species lives at depths from 8 m (in the Kara Sea) to 195 m (in the Barents Sea), mainly on the silty and silty-sandy with stones substrates, at temperatures from negative to 1-4.5°C (in the south of the area) and at salinity 27.1-35‰.

Neptunea denselirata Brogger, 1901

Fig. 88; 127 B

Neptunea denselirata Brogger, 1901: 23, 32, 46-47, 53, 69, 659, Tab. IV, f. 4, 5, 6;

Neptunea denselirata— Golikov, 1963: 177-179, f. 38, 58, 98, Pl. XXIII, f. 2.

H 82 mm, D 42 mm (from the Barents Sea)

DISTRIBUTION. Eurasian arctic species, found from Norway to the south-western part of the Laptev Sea.

ECOLOGY. The species lives at depths from 10 to 430 m, mainly on the silty and silty-sandy with stones substrates, at temperatures from negative to 2°C and at salinity 33-34‰.

Neptunea despecta (Linnaeus, 1758)

Fig. 88; 128 A, B-C

Murex despecta Linnaeus, 1758: 754;

Neptunea despecta— Filatova, Zatsepin, 1948: 385, Pl. 100, f. 6, 7; Golikov, 1963: 152-156, f. 4, 10, 26, 32, 53, 70, 90, Pl. XXII, f. I; Golikov, 1987: 106-107, f. 54.

H 140 mm, D 75 mm (from the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal species, found from Iceland and Man Island to Greenland, Spitzbergen, and Novaya Zemlya.

ECOLOGY. The species lives at depths from 2 m (in the White Sea) to 1203 m (in the Norwegian

Sea), mainly on the silty with gravel and stones substrates, at temperatures from -1.7—+2°C (in the north of the area) to 8-16°C (in the south of the area) and at salinity 25.3-35‰.

Neptunea lyrata lyrata (Martyn, 1784)

Fig. 128 D

Buccinum lyratum Martyn, 1784: f. 43;

Neptunea lyrata lyrata— Golikov, 1963: 114-148, f. 9, 30, 51, 69, 90, Pl. XIX, f. I.

H 120 mm, D 63 mm (from the southern part of the Chuckchee Sea)

DISTRIBUTION. Pacific widely spread boreal species, which reaches southern part of the Chuckchee Sea; the northward of Hokkaido, Japan Sea and California in the Pacific.

ECOLOGY. The species lives at depths from 16 m (off Ice Cape) to 1724 m (off California), mainly on the silty and sandy-silty substrates, at temperatures from -0.6°C to 10°C and at salinity 32.25-34.5‰.

Neptunea amianta (Dall, 1889)

Fig. 129 B

Chrysodomus amianta Dall, 1889: 321-322, Pl. V, f. 9;

Neptunea amianta— Golikov, 1963: 142-144, fig. 29, 89, Pl. XIX, f. I.

H 105 mm, D 72 mm (from the southern part of the Chuckchee Sea)

DISTRIBUTION. Pacific upper-boreal species, which reaches the southern part of the Chuckchee Sea, to the northward of Kamchatka and California in the Pacific.

ECOLOGY. The species lives at depths from 30 m (in the north of the area) to 1431 m (off California), mainly on the sandy and silty-sandy substrates, at temperatures from near 0°C to 4°C and at salinity 33-34.5‰.

Neptunea beringiana

(Middendorff, 1848)

Fig. 89; 129 A

Tritonium (Fusus) antiquum var. *beringiana* Middendorff, 1848: 243;

Neptunea beringiana— Golikov, 1963: 166-170, f. 35, 55, 72, 95, Pl. XXVI, f. I.

H 101 mm, D 87 mm (from the Chuckchee Sea)

DISTRIBUTION. American-asian upper-boreal arctic species, found from the Okhotsk Sea and South Alaska to the East Siberian and Beafort seas.

ECOLOGY. The species lives at depths from 1 to 100 m, mainly on the silty-sandy and gravel

substrates, at temperatures from negative to 6°C and at salinity 31.3-33.25‰.

Genus *COLUS* Bolten, 1798

Colus (Colus) islandicus

(Mohr, 1786)

Fig. 89; 129 C-D

Murex islandicus Mohr, 1786: 136;

Sipho islandicus— G.O.Sars, 1878: 270-271, Tab. 15, f. 3; Filatova, Zatsepin, 1948: 386-387, Pl. 101, Pl. 3;

Colus islandicus— Macpherson, 1971: 70-71, Pl. IV, f. 3, map 31; Bouchet, Waren, 1985: 229, f. 479, 612-616.

H 131 mm, D 52 mm (off Norway)

DISTRIBUTION. Atlantic boreal-arctic almost circumpolar species, found from Gaskon Bay, Marocco and Virginia to Arctic Canada, and the Laptev and Chuckchee seas (not recorded in the East Siberian Sea).

ECOLOGY. The species lives at depths from 5 m (in the north of the area) to 3006 m (in the south of the area) on the silty with stones and shell-debris substrates, at temperatures from negative to 6°C and at salinity 32-35‰.

Colus (Colus) holboelli

(Moeller, 1842)

Fig. 89; 130 B

Fusus holboelli Moeller, 1842: 88;

Fusus tortuosus— Reeve, 1855: 394, Pl. 38, f. 5;

Sipho tortuosus— Macpherson, 1971: 77-78, Pl. V, f. 3, map 33;

Colus holboelli— Bouchet, Waren, 1985: 228, 229, f. 419-421, 606-611.

H 69 mm, D 28 mm (off S.W.Greenland)

DISTRIBUTION. Atlantic upper-boreal arctic species, found from the Arctic Canada, off Faeroes and Shetland Islands, in the Norwegian, Greenland, Barents and Kara seas.

ECOLOGY. The species lives at depths from 10 to 1500 m, on the silty with gravel and silty-argillaceous substrates, at temperatures from negative to 6°C and at salinity 33-35‰.

Colus (Colus) glaber

(Verkruzen in Kobelt, 1876)

Fig. 90; 130 D

Sipho glaber Verkruzen in Kobelt, 1846: 174, Pl. 3, f. 3;

Sipho glaber— G.O.Sars, 1878: 271-272, Tab. 15, f. 7; Filatova, Zatsepin, 1948: 387, Pl. 101, f. 5;

Colus gracilis— part: Bouchet, Waren, 1985: 227-228, f. 414-416, 437, 587-589, 593.

H 70 mm, D 30 mm

DISTRIBUTION. Atlantic upper-boreal species, found off Faeroes and Shetland Islands, Iceland, in the Norwegian and Barents seas.

ECOLOGY. The species lives at depths from 57 m to 660 m, on the substrates sandy with shell-debris and silty and stones, at temperatures from 1°C to 8°C and at salinity of 33.5-35‰.

Colus (Colus) turgidulus

(Jeffreys, 1877)

Fig. 90; 130 E

Fusus turgidula Jeffreys in Friele, 1877: 8;

Neptunea (Sipho) hansenii— Friele, 1879: 281; Friele, 1882: 13, Pl. 1, f. 20;

Neptunea (Sipho) turgidula— Bouchet, Waren, 1985: 234, f. 417, 422, 470, 637-638.

H 61 mm, D 25 mm (from the Barents Sea)

DISTRIBUTION. Atlantic boreal-arctic species, found from the Norwegian, Greenland, Barents, Kara, Laptev and East Siberian seas.

ECOLOGY. The species lives at depths from 60 m (in the East Siberian Sea) to 1130 m (in the Norwegian Sea), on the silty substrates sometimes with gravel and stones, at temperature from negative to 4°C and at salinity 32.5-35‰.

Colus (Colus) sabini

(Gray, 1824)

Fig. 90; 130 G

Buccinum sabini Gray, 1824: 240;

Fusus (Siphonorbis) togatus— Moersch, 1869: 398;

Sipho curtus— Thorson, 1944: 77-81, f. 9; Filatova, Zatsepin, 1948: 387, Pl. 101, f. 8;

Colus togatus— Macpherson, 1971: 76-77, Pl. V, f. 2, map 33;

Colus sabini— part: Bouchet, Waren, 1985: 232-233, f. 418, 472, 647, 650-652.

H 102 mm, D 39 mm (from the Barents Sea)

DISTRIBUTION. Arctic, almost circumpolar species reaches to Faeroes and Shetland Islands.

ECOLOGY. The species lives at depths from 4.5 m (in the Arctic seas) to 1200 m (in the northern Atlantic), mainly on the silty with stones and gravel substrates, at temperatures from negative to 4°C and at salinity 32.5-35‰.

Colus (Colus) pubescens

(Verrill, 1882)

Fig. 91; 130 F

Sipho pubescens Verrill, 1882: 501, Pl. 43, f. 6, Pl. 57, f. 25;

Fusus hirsutus— Jeffreys, 1883: 396, Pl. 44, f. 7; Filatova, Zatsepin, 1948: 387, Pl. 101, f. 7;

Colus pubescens— Macpherson, 1971: 73-74, Pl. V, f. 1 map 31; Bouchet, Waren, 1985: 231-232, f. 465, 639-640;

Colus sabini— part: Bouchet, Waren, 1985: 232-233, f. 648, 649.

H 81 mm, D 31 mm (to the south of Newfoundland)

DISTRIBUTION. Atlantic boreal-arctic, almost circumpolar species, found to South Caroline in America and to Faerous Islands in Europe.

ECOLOGY. The species lives at depths from 54 m, (in the East Siberian Sea) to 2213 m (south off Newfoundland) on the silty-sandy, silty-argillaceous and silty with stones and gravel substrates, at temperatures from negative to 8°C and at salinity 32-35‰.

Colus (Limatofusus) pulcius

Dall, 1919

Fig. 130 A

Colus pulcius Dall, 1919: 318.

H 38 mm, D 17 mm

DISTRIBUTION. American-asian arctic species, from the southern part of the Chuckchee Sea.

ECOLOGY. Unknown.

Colus (Aulacofusus) brevicauda

(Deshayes, 1832)

Fig. 91; 130 H

Fusus brevicauda Deshayes, 1832: 159;

Tritonium schantaricum— Middendorff, 1849: 475;

Fusus spitzbergensis— Reeve, 1855: 395;

Colus spitzbergensis— Macginitie, 1959: 119-120; Macpherson, 1971: 75-76, Pl. V, f. 9, map 32.

Neptunea brevicauda— Bouchet, Waren, 1985: 202, f. 404, 456, 528-529.

H 72 mm, D 28 mm (off Paramushir Island)

DISTRIBUTION. Pacific boreal-arctic, almost circumpolar species, found from the Northern Japan to Bering Strait in the Pacific, and from the Man Bay to Labrador in the Atlantic.

ECOLOGY. The species lives at depths from 2 m to 548 m, on the silty-sand and silty with stones and gravel substrates, at temperatures from negative to 8°C and at salinity of 32-35‰.

Colus (Aulacofusus) esychus

(Dall, 1907)

Fig. 130 I

Colus esychus Dall, 1907: 159;

Colus esychus— Dall, 1921-29, Pl. 10, f. 8.

H 52 mm, D 21 mm (holotype)

DISTRIBUTION. Pacific upper-boreal species, which reaches the southern part of the Chuckchee Sea, also found near Kommander Islands.

ECOLOGY. Unknown.

Colus (Aulacofusus) roseus

Dall, 1877

Fig. 130 J

Chrysodomus roseus Dall, 1877:7;

Colus roseus— Macpherson, 1971: 74-75, Pl. II, f. 16, map 32.

H 30 mm, D 15 mm

DISTRIBUTION. American-asian arctic species, found from Novosibirsk shoal to Arctic Canada and the Bering Sea.

ECOLOGY. The species lives at depths from 15 m to 36 m, on the silty-sandy with gravel and pebbles substrates, at temperatures from negative to 4°C and at salinity 32-33‰.

Colus (Latisipho) hypolisus

(Dall, 1891)

Fig. 91; 131 A

Chrysodomus (Sipho) hypolisus Dall, 1891: 188;

Chrysodomus (Sipho) hypolisus— Dall, 1895: 708, Pl. 27, f. 1

H 55 mm, D 26 mm (holotype)

DISTRIBUTION. American-asian upper-boreal species, found in the Chuckchee, Okhotsk and Bering Seas and adjacent waters.

ECOLOGY. The species lives at depths from 40 m (in the northern part of the Bering Sea) to 106 m (in the Okhotsk Sea), on the sandy, silty-sandy and silty substrates with stones, gravel and pebbles substrates, at temperatures from negative to 8°C and at salinity 32-33.5‰.

Colus (Anomalosipho) altus

(S. Wood, 1848)

Fig. 92; 130 K

Trophon altus S. Wood, 1848: 47, Tab. 6, f. 13;

Sipho verkuzeni— Kobelt, 1876, Pl. 2, f. 2;

Neptunea (Sipho) virgata— Friele, 1882: 13, Tab. 1, f. 21-25;

Sipho (Anomalosipho) altus— Thiele, 1928: 598; Thorson, 1944: 83-84;

Colus verkuzeni— Bouchet, Waren, 1985: 234, f. 661-664.

H 70 mm, D 32 mm (off Eastern Kamchatka)

DISTRIBUTION. Pacific upper-boreal-arctic species, found from the Norwegian, Greenland, Barents, Kara and Laptev seas to Kamchatka and northern Kurile Islands.

ECOLOGY. The species lives at depths from 22 m (in the Laptev Sea) to 640 m (in the Norwegian Sea), on the stones, sandy, silty-argillaceous with pebbles and gravel substrates, at temperature from negative to 6°C and at salinity 32-35‰.

Colus (Anomalosipho) conulus
(Aurivillius, 1885)

Fig. 92; 130 L

Fusus (Euthria) conulus Aurivillius, 1885: 354, 377, Tab. 13, f. 6;

Sipho (Anomalosipho) conulus— Thiele, 1928: 598.

H 44 mm, D 19 mm (holotype)

DISTRIBUTION. American-asian arctic species, found in the East Siberian and Chuckchee seas.

ECOLOGY. The species lives at depths from 12 m to 50 m, on the silty-sandy substrates with stones, gravels and pebbles substrates, at temperature from negative to 4°C and at salinity 32-33‰. While reproducing, females lay egg capsules, often upon the shells of the same species, containing up to 4 embryos in each capsule.

Colus (Plicifusus) latericeus
(Moeller, 1842)

Fig. 130 C

Fusus latericeus Moeller, 1842: 90;

Sipho latericeus— G.O. Sars, 1878: 276-277, Tab. 15, f. 8; Filatova, Zatsepin, 1948: 387-388, Pl. 101, f. 4;

Colus latericeus— Bouchet, Waren, 1985: 231, f. 423, 478, 634-636.

H 27.6 mm, D 10.5 mm (off Newfoundland)

DISTRIBUTION. Atlantic upper-boreal-arctic species, found from St. Lawrence Bay and Western Norway to the East Siberian Sea.

ECOLOGY. The species lives at depths from 10 (in the White Sea) to 1167 m (off Lofoten Island, empty shell), mainly on the silty substrates at temperatures from negative to 3-7°C and at the salinity of 26-34.8‰.

Colus (Plicifusus) kroyeri
(Moeller, 1842)

Fig. 92; 131 B-C

Fusus kroyeri Moeller, 1842: 88;

Fusus arcticus— Philippi, 1850: 119, Pl. 5, f. 5;

Plicifusus johanseni— Dall, 1919: 21a;

Sipho (Parasipho) kroyeri— Thorson, 1944: 84-85;

Plicifusus kroyeri— Filatova, Zatsepin, 1948: 388, f. 36a; Macpherson, 1971: 80-81, Pl. V, f. 7, map 35;

Colus kroyeri— Bouchet, Waren, 1985: 231, f. 631-633.

H 103 mm, D 45 mm (off Paramushir Islands)

DISTRIBUTION. Pacific upper-boreal-arctic, almost circumpolar species, found northward of northern Kurile Islands, off Kamchatka, British Columbia, Spitzbergen, Greenland and Newfoundland.

ECOLOGY. The species lives at depths from 0 m (off Spitzbergen) to 248 m (off Paramushir Island), mainly on the hard sandy, shell-debris, gravel, pebbles, sometimes silty substrates, at temperatures from negative to 8°C and at salinity of 32-34.5‰.

Genus *TURRISIPHO*

Dautzenberg et Fischer, 1912

Turrisipho (Turrisipho) lachesis
(Moerch, 1869)

Fig. 93; 131 D

Fusus (Siphonorbis) lachesis Moerch, 1869: 397;

Sipho lachesis— G.O. Sars, 1878: 274, Tab. 15, f. 6;

Sipho (Turrisipho) lachesis— Thiele, 1928: 599;

Colus lachesis— Macpherson, 1971: 71, 73, Pl. V, f. 4, map 31;

Turrisipho lachesis— Bouchet, Waren, 1985: 215-216, f. 409, 458, 560-566.

H 60 mm, D 22 mm (off Spitzbergen)

DISTRIBUTION. Atlantic arctic species, found in the Norwegian, Greenland, Barents and Kara seas, also in the Davis Strait and off Newfoundland.

ECOLOGY. The species lives at depths from 30 m (off Eastern Greenland) to 1267 m (off Newfoundland), on the sandy-silty with clay and stones or silty substrates, at temperatures from negative to 4°C and at salinity 34-35‰.

Turrisipho (Turrisipho) voeringi
Bouchet et Waren, 1985

Fig. 93; 131 E

Turrisipho voeringi Bouchet, Waren, 1985: 216-217, f. 410, 411, 576-570;

Neptunea (Siphonorbis) lachesis var. *bicarinata*— Friele, 1879: 828 (non *Neptunea despecta* var. *bicarinata* Kobelt, 1878);

Sipho lachesis var. *bicarinata*— Thorson, 1944: 73-74.

H 81 mm, D 25 mm (to the north-westward of Franz Josef Land, at depths of 1017 m)

DISTRIBUTION. Atlantic arctic species, found in the Norwegian, Greenland, Barents, Kara and Laptev seas and adjacent waters of the Atlantic.

ECOLOGY. The species lives at depths from 25 to 1500 m, on the silty-argillaceous substrates, often with gravel and stones, at temperature from negative to 4°C and at salinity 33.5-35‰.

Turrisipho (Turrisipho) dalli
(Friele, 1881)

Fig. 93; 131 H

Sipho dalli Friele in Tryon, 1881: 133;

Sipho (Turrisipho) dalli— Thiele, 1928: 599;

Turrisipho dalli— Bouchet, Waren, 1985: 215, f. 577, 588.

H 34 mm, D 14 mm (from the Barents Sea)

DISTRIBUTION. Atlantic arctic species, found in the Norwegian, Barents and Kara seas.

ECOLOGY. The species lives at depths from 290 to 1350 m, on the silty with pebbles and stones substrates, at temperatures from the negative to 3°C and at salinity 33.5-35‰.

Turrisipho (Siphonorbis) moebii
(Dunker et Matzger, 1874)

Fig. 94; 131 F

Turrisipho moebii Dunker et Matzger, 1874: 8;

Fusus ebur— Friele, 1877: 7;

Sipho sarsi— Jeffreys in G.O. Sars, 1878: 275, Tab. 15, f. 2;

Sipho (Siphonorbis) ebur— Thiele, 1928: 599;

Turrisipho moebii— Bouchet, Waren, 1985: 247, f. 407, 408, 455, 575-578.

H 80 mm, D 40 mm (off Ireland)

DISTRIBUTION. Atlantic European boreal species, found from the Skagerrack and Ireland to the Barents Sea.

ECOLOGY. The species lives at depths from 150 to 957 m, on the silty-sandy and silty with clay, pebbles and stones substrates, at temperatures from 0°C to 6°C and at salinity 33.5-35‰.

Turrisipho (Siphonorbis) fenestratus
(Turton, 1834)

Fig. 94; 131 G

Fusus fenestratus Turton, 1834: 351;

Buccinum fusiforme— Broderip, 1830: 45 (not Borson, 1822);

Sipho (Siphonorbis) fenestratus— Thiele, 1928: 599;

Turrisipho fenestratus— Bouchet, Waren, 1985: 217, f. 406, 483., 571-574, 591.

H 41 mm, D 20 mm (off Western Norway)

DISTRIBUTION. Atlantic European boreal species, found from the Bay of Biskay to the Barents Sea.

ECOLOGY. The species lives at depths from 50 to 1200 m, on the silty with pebbles and stones substrates, at temperatures from 0°C to 8°C and at salinity 34-35‰.

Genus *MOHNIA*

Friele in Kobelt, 1878

Mohnia (Mohnia) mohni
(Friele, 1877)

Fig. 131 K

Fusus mohni Friele, 1877: 6;

Mohnia mohni— Thiele, 1928: 595; Bouchet, Waren, 1985: 205-206, f. 435, 482, 530, 531.

H 23.6 mm, D 12 mm (from the Greenland Sea)

DISTRIBUTION. Atlantic Eurasian bathyal-pseudoabyssal arctic species, found in the Greenland and Norwegian seas, and in the bathyal and pseudoabyssal of the Arctic Ocean and to East Siberian Sea.

ECOLOGY. The species lives at depths from 650 to 3800 m, on the silty substrates, at temperatures from negative to 2-3°C and at salinity 35‰.

Mohnia (Mohnia) parva
(Verrill et Smith, 1882)

Fig. 131 I

Sipho parvus Verrill, Smith in Verrill, 1882: 504, Pl. 57, f. 20;

Mohnia (Mohnia) parva— Bouchet, Waren, 1985: 206, f. 436, 451, 532-534.

H 14.2 mm, D 7 mm (from the Greenland Sea)

DISTRIBUTION. Arctic bathyal-abyssal species, from North-Eastern America and the Greenland Sea.

ECOLOGY. The species lives at depths from 200 to 2000 m, on the silty substrates, at temperatures from negative to 2-3°C and at salinity 34-35‰.

Mohnia (Tacita) danielsseni
(Friele, 1879)

Fig. 94; 131 J

Neptunea (Sipho) danielsseni Friele, 1879: 282;

Sipho danielsseni— Thiele, 1928: 599;

Mohnia (Tacita) danielsseni— Bouchet, Waren, 1985: 210, f. 431, 432, 480, 539-540.

H 42.7 mm, D 21.3 mm (off Greenland)

DISTRIBUTION. Arctic pseudoabyssal species, found between Norway, Spitzbergen and Greenland, to the north-western Laptev Sea and the Canadian hollow.

ECOLOGY. The species lives at depths from 1100 m to 3700, on the silty substrates, at temperatures from negative (about 0°C) and at salinity about 35‰.

Mohnia (Tacita) krampi
(Thorson, 1951)

Fig. 51

Sipho krampi Thorson, 1951; 54, f. 16;

Mohnia (Tacita) krampi— Bouchet, Waren, 1985: 212, f. 425, 449, 538.

H 34.5 mm, D 17 mm (from the Baffin Bay)

DISTRIBUTION. Arctic species, found in the Baffin Bay only.

ECOLOGY. The species lives at depths from 570 m to 2300 m, on the silty substrates, mainly at negative temperature and at salinity of 34-35‰.

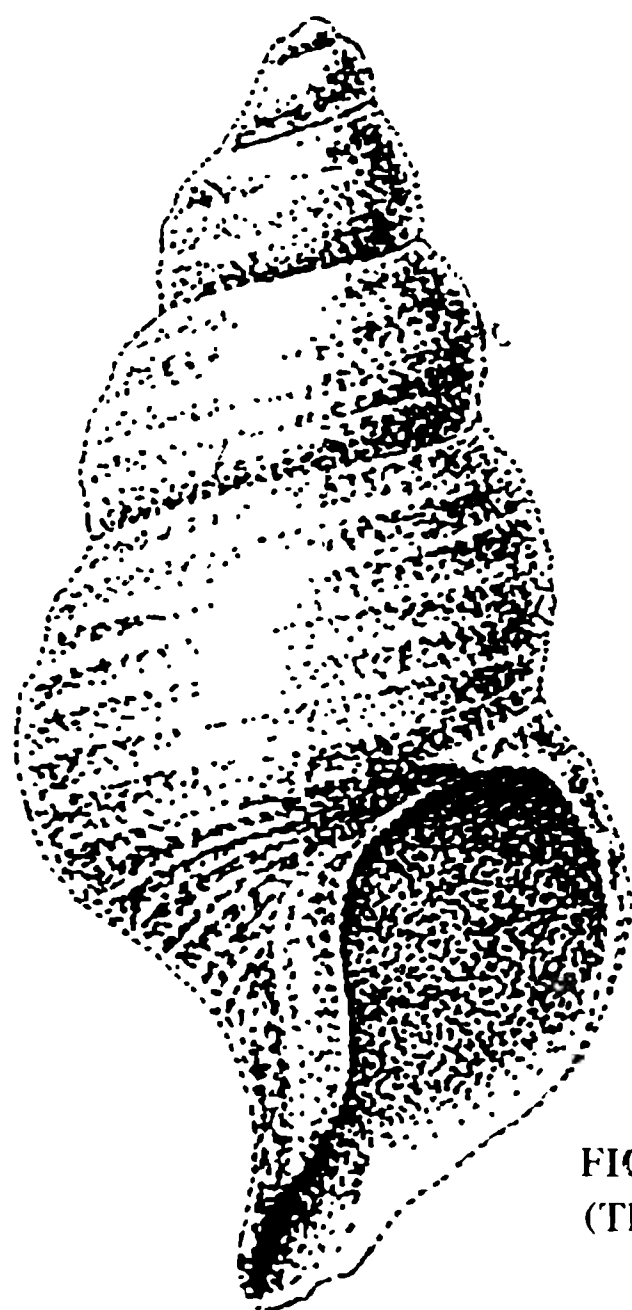


FIG. 51. *Mohnia (T.) krampi*
(Thorson, 1951).

Subfamily **BUCCININAE**
Rafinesque, 1815

Genus *BUCCINUM* Linnaeus, 1758

Buccinum undatum Linnaeus, 1758

Fig. 96; 132 A, B-C

Buccinum undatum Linnacus, 1758: 740;

Buccinum undatum— Filatova, Zatsepin, 1948: 381, 382, Pl. 99, f. 1-3; Golikov, 1980: 360-375, f. 6, 9, 10, 12, 13, 15, 19, 20, 94, 138, 191, 217, 239, 413-418, Pl. XXXIV, f. 3a-, XXXV, XXXVI, f. 1a-e, XLII.

H 88 mm, D 48 mm (from the Barents Sea)

DISTRIBUTION. Atlantic widely spread boreal species, found from the Biskay Bay and Cape Cod to Western Greenland and Novaya Zemlya.

ECOLOGY. The species lives from the low horizon of the littoral zone to 624 m, mainly on the stony and sandy substrates, at temperature from -1.5-5°C (in the north of the area) to 8-20°C (in the South of the area) and at salinity of 14-35‰.

Buccinum glaciale
Linne, 1761

Fig. 95; 132 D-G

Buccinum glaciale Linne, 1761: 523;

Buccinum glaciale— Filatova, Zatsepin, 1948: 381, 382-383, Pl. 99, f. 8-10; Golikov, 1980: 228-236, f. 6, 62, 118, 161, 217, 227, 301-306, Pl. XIII; Golikov, 1987: 114-115, f. 62.

H 87 mm, D 50 mm

DISTRIBUTION. Upper-boreal arctic circumpolar species, found from the northern part of the Okhotsk Sea and Western Alaska in the Pacific and from Northern Norway and Cape Cod in the Atlantic.

ECOLOGY. The species lives at depths from 1 m (off Spitzbergen) to 1267 m (off New England), mainly on the stony, hard sandy, shell-debris and silty substrates with stones, at temperatures from negative to 2-8°C and at salinity 27-35‰.

Buccinum angulosum
Gray, 1839

Fig. 95; 132 H

Buccinum angulosum Gray, 1839: 127-128, Pl. XXXVI, f. 6;

Buccinum angulosum— Filatova, Zatsepin, 1948: 381, 383, Pl. XLIX, f. 1; Golikov, 1980: 236-241, f. 7, 63, 119, 162, 217, 228, 307-312, Pl. XIV, f. 1; Golikov, 1987: 113-114, f. 61.

H 72 mm, D 41 mm

DISTRIBUTION. Pacific upper-boreal arctic circumpolar species, found from the northern part of the Okhotsk and Bering seas to northern Norway and Newfoundland.

ECOLOGY. The species lives at depths from 8 m (off Novaya Zemlya) to 285 m (in the Bering Sea), on the stony, gravels, sometimes silty substrates, at temperature from negative to 0-4.5°C and at salinity of 29.8-35.07‰.

Buccinum maltzani

Pfeiffer, 1886

Fig. 95; 132 I, J-K

Buccinum maltzani Pfeiffer, 1886: 7-8, Tab. I, f. 8-9;*Buccinum maltzani*— Golikov, 1980: 201-204, f. 54, 112, 153, 217, 222, 269, 270-274, Tab. VI.

H 53 mm, D 34 mm (from the eastern part of the Barents Sea)

DISTRIBUTION. Arctic circumpolar species, found from the eastern part of the Barents Sea and Newfoundland to the northern part of the Bering Sea.

ECOLOGY. The species lives at depths from 5 m (off Wrangel Island) to 325 m (in the eastern part of the Barents Sea), on the sandy and silty-sandy substrates, at temperatures from negative to 5.6°C and at salinity 27-34‰.

Buccinum ciliatum ciliatum

(Fabricius, 1780)

Fig. 96; 133 A

Tritonium ciliatum Fabricius, 1780: 401-402;*Buccinum ciliatum ciliatum*— Golikov, 1980: 307-313, f. 82, 127, 180, 217, 234, 237, 375-378, Pl. XXIX, f. 2.

H 40 mm, D 23 mm

DISTRIBUTION. Amphiboreal subspecies of the boreal-arctic species, found from New Scotia and Western Norway to Novaya Zemlya in the Atlantic and from Hokkaido to Kodiak Peninsula in the Pacific.

ECOLOGY. The subspecies lives at depths from 2 to 1000 m, on the silty substrates with stones and gravels, at temperature from the negative to 2-9°C and at salinity 28-35‰.

Buccinum ciliatum sericatum

Reeve, 1845

Fig. 96; 133 B

Buccinum sericatum Reeve, 1845: Pl. 14, f. 114;*Buccinum ciliatum sericatum*— Golikov, 1980: 313-316, f. 128, 181, 373, Pl. XXIX, f. 3.

H 35 mm, D 24 mm

DISTRIBUTION. Arctic subspecies of the boreal-arctic circumpolar species.

ECOLOGY. The subspecies lives at depths from 1.5 m to 1287 m, on the silty substrates with stones and pebbles, at temperatures from negative to 4.5°C and at salinity 27-34.8‰.

Buccinum micropoma

Jensen in Thorson, 1944

Fig. 96; 133 C

Buccinum micropoma Jensen in Thorson, 1944: 100-102, f. 11;*Buccinum micropoma*— Macpherson, 1971: 97-98, Pl. VI, f. 11, map 93; Golikov, 1980: 322-326, f. 84, 130, 217, 234-239, Pl. XXX, f. 3a-ж.

H 33.8 mm, D 19.1 mm (from Eastern Greenland)

DISTRIBUTION. Arctic species, found in all Polar seas, except the White, East Siberian, Chuckchee and Beafort seas.

ECOLOGY. The species lives at depths from 3 m (off Spitzbergen) to 365 m (in the Barents Sea), on the silty substrates, often with stones and pebbles, at temperatures from negative to 2.5°C and at salinity 33.5-34.8‰.

Buccinum fragile

Verkrusen in G.O. Sars, 1878

Fig. 97; 135 A-B

Buccinum fragile Verkrusen in G.O. Sars, 1878: 257-258, Tab. 24, f. 6, Tab. X, f. 8;*Buccinum fragile*— Filatova, Zatsepin, 1948: 381-382, Pl. XCIX, f. 4; Golikov, 1980: 382-388, f. 96, 140, 193, 217, 244, 426-421, Pl. XXXVII, f. 1a-e.

H 77 mm, D 42 mm (from the eastern part of the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal-arctic species, found from New England to Arctic Canada, in the Greenland, Norwegian, Barents and Kara seas and adjacent waters.

ECOLOGY. The species lives at depths from 17 m (in the Barents Sea) to 940 m (off New England), on the silty with stones substrates, at temperatures from negative to +2-8°C and at salinity 32.2-35.23‰.

Buccinum physema Dall, 1919

Fig. 97; 133 D

Buccinum physema Dall, 1919: 328;*Buccinum physema*— Macpherson, 1971: 125; Golikov, 1980: 353-355, f. 406, Pl. XXXIII, f. 4a-6.

H 60 mm, D 40 mm (from the Bering Sea)

DISTRIBUTION. Pacific arctic species, found from the eastern part of the Bering Sea to Bristol Bay, in the Chuckchee and Laptev Seas.

ECOLOGY. The species lives at depths of 49-54 m, on the silty substrates, at temperatures from -1.7°C to +3°C and at salinity of 32.5-33‰.

Buccinum polare Gray, 1839

Fig. 97; 134 A-B

Buccinum polare Gray, 1839: 128;*Buccinum totteni*— Stimpson, 1855: 385;*Tritonium terrae-novae*— Beck in Moersch, 1869: 14, 18, 19;*Buccinum polare*— Golikov, 1980: 344-349, f. 92, 135, 189, 217, 237, 399, 400-404, Pl. XXXIII, f. 1a-3.

H 97 mm, D 44 mm (off Eastern Sakhalin)

DISTRIBUTION. Widely spread boreal-arctic species of Pacific origin, found from the Okhotsk and Bering seas, in all Polar seas (except the White Sea), and from the Man Bay to Arctic Canada, Greenland, Iceland, Spitzbergen and Franz Josef Land.

ECOLOGY. The species lives at depths from 3 m (off Franz Josef Land) to 1267 (in the Man Bay), mainly on the silty-sandy and silty substrates, at temperatures from negative to 2-10°C and at salinity of 29-35‰.

Buccinum fringillum Dall, 1877

Fig. 98; 135 G

Buccinum fringillum— Dall, 1877: 9; Golikov, 1980: 352-353, f. 405, Pl. XXXIII, f. 3a-6.

H 37.7 mm, D 24.6 mm (holotype; Alaska)

DISTRIBUTION. American-asian arctic species, found in the northern part of the Bering Sea, southern part of the Chuckchee Sea and to the northward from Novosibirskie Islands.

ECOLOGY. The species lives at depths from 5 m (Rodgers Bay, Wrangel Island) to 100 m (off Alaska), on the sandy, silty-sand and silty substrates, at temperatures from negative to 2-3°C and at salinity of 32.5-33‰.

Buccinum polium obsoletum

Golikov, 1980

Fig. 98; 133 L

Buccinum polium obsoletum Golikov, 1980: 300-302, f. 126, 177, 364, 366, 367, 368, 369, Pl. XXVII, f. 3a-6, Tab. XXVIII, f. 1a-6.

H 54 mm, D 29 mm (from the Chuckchee Sea)

DISTRIBUTION. American-asian upper-boreal-arctic Pacific subspecies, found in the Okhotsk, Bering, Beafort, Chuckchee, East Siberian and Laptev Seas.

ECOLOGY. The subspecies lives at depths from 18 m (in the East Siberian Sea) to 146 m (in the Okhotsk Sea), mainly on the silty substrates, at temperatures from negative to 5°C and at salinity 32-33.5‰.

Buccinum coronatum Golikov, 1980

Fig. 134 C-D

Buccinum coronatum Golikov, 1980: 359-360, f. 407, Pl. XXXIV, f. 2a-6.

H 42 mm, D 26 mm (holotype)

DISTRIBUTION. Arctic species, found northward of Newfoundland and in western part of the Laptev Sea.

ECOLOGY. The species lives at depths from 46 to 55 m, on the silty-sandy substrates, at temperatures of -1.7-0°C and at salinity of 33.6-34‰.

Buccinum nivale Friele, 1882

Fig. 98; 133 E

Buccinum nivale Friele, 1882: 32, Pl. 3, f. 29, 35;*Buccinum nivale*— Thorson, 1944: 103-104, f. 12; Macpherson, 1971: 99, map 44; Golikov, 1980: 355-359, f. 93, 137, 190, 217, 238, 407, 408-412, Pl. XXXIII, f. 5a-, Pl. XXXIV, f. 1a-r.

H 63 mm, D 35 mm (from the Barents Sea)

DISTRIBUTION. Atlantic arctic species, found in the Baffin, Greenland, Norwegian, Barents and Kara seas, Hudson Bay, in the western part of the Laptev Sea and adjacent waters.

ECOLOGY. The species lives at depths from 9 m (off Severnaya Zemlya) to 860 m (off Lofoten Islands), on the silty substrates with pebbles and stones, at temperatures from -2°C to +2.5°C and at salinity 33.8-35‰.

Buccinum hydrophanum

Hancock, 1846

Fig. 99; 133 F

Buccinum hydrophanum Hancock, 1846: 325-326, Pl. V, f. 7;*Buccinum hydrophanum*— Thorson, 1941: 90-91; Thorson, 1944: 88-93; Macpherson, 1971: 95, Pl. VI, f. 15, map 42; Golikov, 1980: 316-322, f. 83, 129, 182, 217, 235, 379-383, Pl. XXIX, f. 4a-b, Pl. XXX, f. 1a-6, 2a-d.

H 84 mm, D 50 mm (off North-Western Spitzbergen)

DISTRIBUTION. Atlantic arctic species, found in the Arctic Canada, in the Greenland, Norwegian, Barents, Kara and Laptev Seas and adjacent waters of the Atlantic.

ECOLOGY. The species lives at depths from 3-6 m (in the north of the area) to 1200 m (in the south of the area), mainly on the silty substrates with stones and silty-sandy, at temperatures from negative to 1-4°C and at salinity of 33.7-35‰.

Buccinum elatior
(Middendorff, 1849)

Fig. 99; 133 I-J, K

Tritonium (Buccinum) tenue f. *elatior* Middendorff, 1849: 173, Tab. VI, f. 5-6;

Buccinum tenue— Filatova, Zatsepin, 1948: 381, 383-384, Pl. 99, Pl. 6-7;

Buccinum elatior— Golikov, 1980: 283-292, f. 6, 77, 124, 174, 217, 231, 351-357, Pl. XXV, f. 2, Pl. 2, Pl. XXVI, f. 1

H 77 mm, D 39 mm (from the Barents Sea)

DISTRIBUTION. Boreal-arctic circumpolar species of Pacific origin, found to north-western Norway in the Atlantic and to Hokkaido in the Pacific.

ECOLOGY. The species lives at depths from 2-3 m (off Novaya Zemlya) to 1267 m (off New England), mainly on the sandy-silty with stones substrates, at temperatures from negative to 0-12°C (in the south of the area) and at salinity 27-35‰.

Buccinum finmarchianum
Verkruzen, 1875

Fig. 99; 133 G-H

Buccinum finmarchianum Verkruzen, 1875: 237, Tab. 8 f. 1-5;

Buccinum finmarchianum— Filatova, Zatsepin, 1948: 381, 383, Pl. 100, f. 4; Golikov, 1980: 398-405, f. 100, 142, 198, 217, 440-446, Pl. XXXIX.

H 71 mm, D 33 mm (from the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal species, which reaches arctic waters off Frantz Josef Land, Greenland and Spitzbergen; found to Cape Cod and Western Norway in the south of the area.

ECOLOGY. The species lives from the low horizon of littoral zone to depth of 992 m, mainly on the stony and rocky substrates, sometimes on the silty-sandy substrates with gravel and shell-debris, at temperatures from negative to 4-12°C and at salinity 29-35‰.

Buccinum cyaneum
Bruguiere, 1789-1792

Fig. 100; 135 C

Buccinum cyaneum Bruguiere, 1789-1792: 238, 266;

Buccinum cyaneum— Golikov, 1980: 373-382, f. 4-6, 9, 95, 139, 192, 217, 240, 419-425, Pl. XXXVI, f. 2a-ж.

H 41 mm, D 22 mm (from the south-western part of the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal species, which reaches arctic waters off Frantz Josef Land, Greenland and Spitzbergen; and to Cape Cod and western Norway in the south.

ECOLOGY. The species lives from low horizon of littoral zone to 992 m, mainly on the stony and rocky substrates, at temperatures from negative to 4-12°C and at salinity 29-35‰. Spawning in the southern part of the Barents Sea begins in June at the water temperature about 2°C. Females lay egg capsules into semi-spheric clustres. Development lasts 3-4 months. Life duration of the molluscs may reach 6 years.

Buccinum belcheri Reeve, 1855

Fig. 100; 135 D-E

Buccinum belcheri Reeve, 1855: 394, Pl. 33, f. 7;

Buccinum belcheri— Macpherson, 1971: 87, Pl. VI, f. 7, map 37; Golikov, 1980: 407-410, f. 101, 143, 199, Pl. XL, f. 2a-b.

H 55 mm, D 31 mm (from the Barents Sea)

DISTRIBUTION. Atlantic arctic species, found in the central part of the Greenland Sea, in Norwegian and Barents seas, in the Baffin Sea and off Arctic Canada.

ECOLOGY. The species lives at depths from 5 m (off Arctic America) to 314 m (off western Greenland), mainly on the silty with stones substrates, at temperatures from -1.5°C to 1.5°C and at salinity 32.5-34.5‰.

Superfamily MURICOIDEA
Rafinesque, 1815

Family THAIDIDAE
Jousseaume, 1888

Genus *NUCELLA* Bolten, 1798

Nucella lapillus (Linne, 1767)

Fig. 100; 135 H-I

Buccinum lapillus Linne, 1767: 1202;

Purpura lapillus— Middendorff, 1849: 113;

Nucella (Polytropia) lapillus— Filatova, Zatsepin, 1948: 380, Pl. 97, f. 16, 17;

Nucella lapillus— Golikov, Kussakin, 1978: 192-194, f. 134.

H 38 mm, D 20 mm (from the Kola Bay)

DISTRIBUTION. Atlantic widely spread boreal species, found from Portugal and New York to Labrador, southern Greenland and north-eastern Kola Peninsula.

ECOLOGY. The species lives from upper horizon of littoral to 50 m, mainly on the stony and rocky substrates, at temperatures from -1-+14°C (in winter) to 12-20°C (in summer) and at salinity 12-35‰. Females lay interconnected goblet-like

egg capsules. On East Murman development lasts 4 months. Development direct without planctonic stage. The diet consists of *Mytilus edulis* and *Balanus*.

Family MURICIDAE

Rafinesque, 1815

Genus *BOREOTROPHON*

Fisher, 1884

Boreotrophon clathratus

(Linne, 1767)

Fig. 101; 136 A

Murex clathratus Linne, 1767: 1223;

Trophon clathratus— Thorson, 1944: 67, 68;

Trophonopsis (Boreotrophon) clathratus— Filatova, Zatsepin, 1948: 380, Pl. 97, f. 13;

Boreotrophon clathratus— Macpherson, 1971: 60, Pl. 3, f. 15, map 27

H 32.5 mm, D 17.8 mm (off Iceland)

DISTRIBUTION. Boreal-arctic circumpolar species, found to Sweeden and Cape Cod in the Atlantic and to Eastern Kamchatka and Pudget Sound in the Pacific.

ECOLOGY. The species lives at depths from 0.5 m (off Spitzbergen) to 1203 m (in the Norwegian Sea), on the stony, sandy and silty with stones substrates, at temperatures from negative (in the north of the area) to 2-13.5°C (in the South of the area) and at salinity 24.4-34.8‰.

Boreotrophon truncatus

(Stroem, 1767)

Fig. 101; 136 D

Buccinum truncatus Stroem, 1768: 369, Pl. 16, f. 26;

Trophon truncatus— Thorson, 1941: 72; Thorson, 1944: 67;

Trophonopsis (Boreotrophon) truncatus— Filatova, Zatsepin, 1948: 380, Pl. 97, f. 12;

Boreotrophon truncatus— Macpherson, 1971: 62-63, Pl. 3, f. 13, map 28.

H 25.3 mm, D 12 mm (off eastern Greenland)

DISTRIBUTION. Atlantic boreal-arctic circumpolar species, found to England and Cape Cod in the Atlantic.

ECOLOGY. The species lives at depths from 3 m (off Iceland) to 964 m (in the northern part of the Greenland Sea), on the sandy and silty with stones substrates, at temperature from negative (in the north of the area) to 2-5°C (in the south of the area) and at salinity 26-35‰.

Boreotrophon pacificus

(Dall, 1902)

Fig. 136 B

Trophon pacificus Dall, 1902: 544;

Boreotrophon pacificus— Macpherson, 1971: 62, Pl. III, f. 12, map 28.

H 61 mm, D 30 mm (off eastern Kamchatka)

DISTRIBUTION. Pacific upper-boreal species, which reaches Beafort and Chuckchee seas, also distributed at Alaska, in the Bering and Okhotsk seas and adjacent waters of the Pacific.

ECOLOGY. The species lives at depths from 9 to 121 m, mainly on the sandy and silty substrates with stones, at temperatures from -1.7-3°C (in the north of the area) to 5-8°C (in the south of the area) and at salinity 32.5-33‰.

Genus *TROPHONOPSIS*

Bucquoy, Dautzenberg et Dollfus, 1882

Trophonopsis fabricii

(Beck in Moeller, 1842)

Fig. 101; 136 C

Trophon fabricii Beck in Moeller, 1842: 14;

Trophon fabricii— Thorson, 1941: 71; Thorson, 1944: 63-69, f. 8; Thorson, 1951: 34-35;

Trophon (Boreotrophon) fabricii— Thiele, 1928: 592;

Boreotrophon fabricii— Macpherson, 1971: 60-62, Pl. III, f. 16, map 27;

Trophonopsis fabricii— Golikov, Gulbin, 1977: 225.

H 61 mm, D 31 mm (off Paramushir Island)

DISTRIBUTION. Boreal-subarctic species, found in Arctic Canada, in the Norwegian, Greenland, Barents seas, and to middle and northern Kurile Islands and Pudget-Sound in the Pacific.

ECOLOGY. The species lives at depths from 6 m (off eastern Greenland) to 210 m (off Paramushir Island), on the silty-stony, sandy and silty-sandy substrates, at temperatures from negative to 7-12°C and at salinity 33-34‰.

Family VOLUTOMITRIDAE

Thiele, 1929

Genus *VOLUTOMITRA*

H.Adams et A.Adams, 1853

Volutomitra groenlandica

(Beck in Moeller, 1842)

Fig. 102; 136 E

Mitra groenlandica Beck in Moeller, 1842: 88;

Volutomitra groenlandica— G.O. Sars, 1878: 244, Tab. 23, f. 12; Thiele, 1928: 601; Thorson, 1941: 95; Thorson, 1944: 106-107; Macpherson, 1971: 107, map 48; Bouchet, Waren, 1985: 251, f. 391, 671-672.

H 26.8 mm (Greenland Sea)

DISTRIBUTION. Boreal-subarctic species, found from Cape Cod to Arctic Canada, western and eastern Greenland, in the Norwegian and Greenland seas in the Atlantic; subspecies *alaskana* Dall, 1902 is distributed from Pribyloff Island to San Diego (California) and Kamchatka, northern and middle Kurile Islands in the Pacific.

ECOLOGY. The species lives at depths from 7 m to 773 m (in the northern Atlantic) and to 1480 m (in the California), on the silty with stones and pebbles substrates, at temperatures from negative and about 0°C (in the north of the area) to 4-10°C (in the south of the area) and at salinity 32.5-35‰.

Family **PTYCHATRACTIIDAE**
Stimpson, 1865

Genus *PTYCHATRACTUS*
Stimpson, 1865

Ptychatractus occidentalis
Stearns, 1873
Fig. 102; 136 G

Ptychatractus occidentalis Stearns, 1873: 79, Pl. 1.

H 19 mm, D 9 mm (off Novosibirskie Islands)

DISTRIBUTION. Pacific boreal-arctic species, found off Kurile, Aleutian and Novosibirskie Islands.

ECOLOGY. The species lives at depths from 45 m (off Novosibirskie Islands) to 900 m (in the Pacific), on the silty-sandy with pebbles substrates, at temperatures from negative to 5°C and at salinity 32.5-34‰.

Family **FASCIOLARIIDAE**
Gray, 1853

Genus *TROSCHELIA* Moerch, 1876

Troschelia bernicensis (King, 1846)
Fig. 102; 136 H

Fusus bernicensis King, 1846: 246;

Boreofusus bernicensis var. *solida*— Jeffreys in G.O. Sars, 1878: 278-279, Tab. 14, f. 12;

Troschelia bernicensis— Thiele, 1928: 600; Bouchet, Waren, 1985: 193, f. 412, 484-485, 505-510.

H 97.4 mm, D 46 mm (off Norway)

DISTRIBUTION. Atlantic subtropical-boreal species, found from the Mediterranean Sea to the south-western part of the Barents Sea.

ECOLOGY. The species lives at depths from 50 m to 2700 m, on the sandy with shell-debris and silty substrates, at temperatures from 0°C to 10-12°C and at salinity 34-35‰.

Order **CONIFORMES** Golikov et
Starobogatov, 1982
(= **TOXOGLOSSA** Gray, 1853)

Suborder **CANCELLARIOIDEI**
Golikov, 1987
(= **NEMATOGLOSSA** Golikov et
Starobogatov, 1975)

Family **ADMETIDAE** Troschel, 1869

Genus *ADMETE* Moeller, 1842

Admete viridula (Fabricius, 1780)
Fig. 103; 136 F

Tritonium viridulum Fabricius, 1780: 402;

Cancellaria couthouyi— Jay, 1839: 77;

Admete viridula— Thorson, 1941: 96; Thorson, 1944: 107-108, f. 13; Filatova, Zatsepin, 1948: 389, Pl. 97, f. 18, 19; Bouchet, Waren, 1985: 258, f. 683-689;

Admete couthouyi— Macpherson, 1971: 107-108, Pl. 3, f. 14, map 48.

H 26 mm, D 14 mm (off Spitzbergen)

DISTRIBUTION. Widely spread boreal-arctic circumpolar species, found to English Channel and Cape Cod in the Atlantic and to California and Northern Japan in the Pacific.

ECOLOGY. The species lives at depths from 3 m (off Novaya Zemlya) to 1187 m (in the Norwegian Sea), on the silty substrates often with stones, gravel and shell-debris, at temperatures from negative (in the north of the area) to 4-12°C (in the south of the area) and at salinity 26-35‰. While reproducing, female individual egg capsules upon polychaetes tubes, stones and pebbles. The capsules are 5 mm in diameter, oval, bifurcated at the upper end. 12-16 embryos are developing in the egg capsule. Development direct.

Suborder **CONIOIDEI**
Golikov et Starobogatov, 1982

Family **TURRIDAE**
H. Adams et A. Adams, 1855

Subfamily OENOPOTINAE

Bogdanov, 1987

Genus *CURTITOMA* Bartsch, 1941*Curtitoma trevelliiana* (Turton, 1834)

Fig. 103; 137 A-B

Pleurotoma trevelliatum Turton, 1834: 351;*Bela trevelyana*— G.O. Sars, 1878: 235, Tab. 6, f. 13, Tab. 9, f. 4; Thorson, 1941: 105-106; Thorson, 1944: 120-121;*Lora trevelyana*— Filatova, Zatsepin, 1948: 389, Pl. 98, f. 18;*Oenopota trevelyana*— Golikov, 1987: 127-128, f. 74;*Curtitoma trevelliiana*— Bogdanov, 1990: 117-119, f. 7, 30, 57, 72-77, 386, 407

H 10.6 mm, D 5.2 mm (from the southern part of the Barents Sea)

DISTRIBUTION. Atlantic boreal-arctic species, found from the Greenland, Norwegian, Barents, White, Kara, and Laptev seas and Novosibirskie Islands, to the Gaskon Bay and Cape Cod in the Atlantic; to British Colombia and southern part of the Bering Sea in the Pacific.

ECOLOGY. The species lives at depths from 5 m (in the White Sea) to 1447 m (off Spitzbergen), mainly on the silty with sand, pebbles and gravel substrates, at temperatures from negative (in the north of the area) to 3-12°C (in the south of the area) and at salinity 23.4-34.5‰.

Curtitoma novajasemljensis

(Leche, 1878)

Fig. 103; 137 C

Pleurotoma novajasemljensis Leche, 1878: 53, Tab. 1, f. 15;*Oenopota novajasemljensis*— Macpherson, 1971: 119, Pl. 7, f. 14, map 52; Golikov, 1987: 128, Pl. 75;*Curtitoma novajasemljensis*— Bogdanov, 1990: 120-121, Pl. 7, 69-70, 387, 407, 440.

H 11.6 mm, D 7.8 mm (from the Kara Sea)

DISTRIBUTION. Arctic circumpolar species.

ECOLOGY. The species lives at depth 3-450 m, on the silty substrates, at temperatures from negative to 2°C and at salinity 20.4-34.5‰.

Curtitoma decussata (Couthouy, 1839)

Fig. 104; 137 D

Pleurotoma decussata— Couthouy, 1839: 183, Pl. 4, f. 8;*Bela decussata*— G.O. Sars, 1878: 237, Tab. 17, f. 1; Thorson, 1941: 108-109; Thorson, 1944: 116;*Oenopota decussata*— Macpherson, 1971: 115-116, Pl. 7, f. 9, map 51,*Curtitoma decussata*— Bogdanov, 1990: 127-128, f. 104-108, 389, 410, 411, 443, 444.

H 12.5 mm, D 6 mm (from the Massachusetts Bay)

DISTRIBUTION. Pacific boreal-arctic species, found in the Japan, Okhotsk, Bering, Chuckchee, East Siberian, Laptev, Kara, Barents, Norwegian, Greenland seas, and off New Scotia, in the Massachusetts Bay and Arctic Canada.

ECOLOGY. The species lives at depth 1.5-2582 m, on the silty substrates, at temperatures from -1.98°C to 4°C and at salinity 24.76-35‰.

Curtitoma lawrenciana (Dall, 1919)

Fig. 104; 137 E

Lora lawrenciana Dall, 1919: 43, Pl. 15, f. 6;*Curtitoma lawrenciana*— Bogdanov, 1990: 128-130, Pl. 109-11, 411, 445.

H 17.4 mm, D 8.8 mm (off Barrow Cape)

DISTRIBUTION. Pacific boreal-subarctic species, found in the Japan, Okhotsk, Bering and Chuckchee seas.

ECOLOGY. The species lives at depth 4-380 m, mainly on the silty substrates, at temperatures from negative to 12°C and at salinity 32-34‰.

Curtitoma conoidea (G.O. Sars, 1878)

Fig. 104; 137 F-G

Bela conoidea— G.O. Sars, 1878: 236, Tab. 16, f. 14;*Bela decussata* var. *conoidea*— Thorson, 1944: 116;*Curtitoma conoidea*— Bogdanov, 1990: 125-127, f. 97-103, 410, 443.

H 15 mm, D 7.6 mm (off Norway)

DISTRIBUTION. Eurasian upper-boreal arctic species, from the Norwegian, Greenland, Barents, White, Kara and Laptev seas.

ECOLOGY. The species lives at depths of 1.9-1008 m, on the silty substrates, at temperature from negative to 6°C and at salinity of 30.5-35‰.

Curtitoma violacea

(Mighels et A. Adams, 1842)

Fig. 105; 137 H-K

Pleurotoma bicarinata Couthouy, 1838: 105, Pl. 1, f. 11 (non Wood, 1828);*Pleurotoma violacea*— Mighels et A. Adams, 1842: 51, Pl. 4, f. 21;*Bela violacea*— G.O. Sars, 1878: 238, Tab. 9, f. 8;*Lora violacea*— Filatova, Zatsepin, 1948: 390, Tab. 98, Pl. 19;*Oenopota bicarinata*— Macpherson, 1971: 113, Pl. 7, f. 6, map 50; Golikov, 1987: 126-127, f. 73;*Curtitoma violacea*— Bogdanov, 1990: 123-125, f. 83-96, 387, 388, 408, 409, 441, 442.

H 16 mm, D 8 mm (in the Barents Sea)

DISTRIBUTION. Boreal-arctic widely distributed circumpolar species, found to Ireland and New England in the Atlantic and to Japan Sea and British Colombia in the Pacific.

ECOLOGY. The species lives at depth 1-2505 m, mainly on the silty with stones and pebbles substrates, at temperatures from negative (in the north of the area) to 2-7.9°C (in the south of the area) and at salinity 28.6-35‰.

Genus *GRANOTOMA* Bartsch, 1941

Granotoma albrechti (Krause, 1885)

Fig. 105; 137 L

Bela albrechti Krause, 1885: 276, Pl. 18, f. 3, 11;

Granotoma albrechti— Bogdanov, 1990: 135-137, f. 39, 122-127, 391, 392, 393, 412, 446.

H 10.2 mm, D 5.5 mm (from the Okhotsk Sea)

DISTRIBUTION. Pacific boreal-arctic species, found in the Japan, Okhotsk, Bering and Chuckchee seas.

ECOLOGY. The species lives at depth 3-900 m, mainly on the sandy and silty-sandy substrates, at temperatures from -1.2°C to 11.2°C and at salinity 31.6-34.2‰.

Genus *OENOPOTA* Moersch, 1852

Oenopota (Oenopota) pyngelii
(Moeller, 1842)

Fig. 105; 137 M-N

Defrancia pyngelii Moeller, 1842: 88;

Bela pyngelii— G.O. Sars, 1878: 223, Tab. 16, f. 5;

Oenopota pyngelii— Golikov, 1987: 126-127; Bogdanov, 1990: 142-143, f. 6, 209-210, 422.

H 16 mm, D 7 mm (off Norway)

DISTRIBUTION. Widely spread boreal-arctic species, found in the Greenland, Norwegian, Barents, White, Kara, Laptev and Okhotsk seas, at the Atlantic coast of America, Labrador and New Scotia.

ECOLOGY. The species lives at depths from 3 m (off Iceland) to 774 m (off America), on the silty with gravel substrates, at temperatures from negative to 2-6°C (in the south of the area) and at salinity 28-34.5‰.

Oenopota (Oenopota) obliqua
(G.O. Sars, 1878)

Fig. 106; 137 O

Bela obliqua G.O. Sars, 1878: 226, Tab. 16, f. 6;

Oenopota obliqua— Macpherson, 1971: 119, 120, Pl. 7, f. 3, map. 3; Golikov, 1987: 130-131, Pl. 79; Bogdanov, 1990: 143-144, f. 211-213, 406, 420, 449.

H 10.7 mm, D 5.3 mm (from the Kandalaksha Bay of the White Sea)

DISTRIBUTION. Atlantic upper-boreal arctic species, from the Greenland, Norwegian, Barents, White, Kara and Laptev seas, also from the north-western part of Arctic Canada.

ECOLOGY. The species lives at depths from 3 m (in the White Sea) to 406 m (off Spitzbergen), mainly on the silty and silty-sandy substrates, often with stones and pebbles, at temperatures from -1.83°C to 4.2°C and at salinity 27.2-34.5‰.

Oenopota (Oenopota) pyramidalis
(Stroem, 1788)

Fig. 106; 137 V

Buccinum pyramidalis Stroem, 1788: 296, Pl. 1, f. 22;

Bela pyramidalis— G.O. Sars, 1878: 222, Tab. 16, f. 3, Tab. 8, f. 8; Thorson, 1941: 97-98; Thorson, 1944: 113-114;

Lora pyramidalis— Filatova, Zatsepin, 1948: 389, Pl. 98, f. 14;

Oenopota pyramidalis— Macpherson, 1971: 121, Pl. 7, f. 12, map 53; Bogdanov, 1990: 140-141, f. 191-208, 397, 399, 419, 447.

H 23 mm, D 10 mm (off Spitzbergen)

DISTRIBUTION. Widely spread boreal-arctic circumpolar species, found to the Biscay Bay and Martas-Viniard Island in the Atlantic and to Pudget-Sound in the Pacific.

ECOLOGY. The species lives at depths from 2 m (off Spitzbergen) to 1959-2010 m (in the Biscay Bay and Davis Strait), mainly on the sandy and silty substrates, at temperatures from negative (in the north of the area) to 2-8.2°C and at salinity 26.2-34.8‰.

Oenopota (Nodotoma) impressa
(Moersch, 1869)

Fig. 106; 137 P-Q

Pleurotoma (Inschnula) impressa Moersch, 1869: 21;

Bela impressa— G.O. Sars, 1878: 224, Tab. 23, f. 3, Tab. 8, f. 9;

Oenopota impressa— Golikov, 1987: 132, f. 81;

Oenopota (Nodotoma) impressa— Bogdanov, 1990: 145, 147, f. 37, 161-167, 398, 414, 415, 450, 451.

H 13.2, D 7 mm (from the southern part of the Barents Sea)

DISTRIBUTION. Pacific boreal arctic species, found in the all Polar seas (excluding Bofort Sea) and in the Japan, Okhotsk and Bering seas.

ECOLOGY. The species lives at depth 3-500 m, mainly on the sandy, silty and silty-sandy, often with stones substrates, at temperatures from -1.8°C to 10.2°C and at salinity 31.7-35.04‰.

Oenopota (Nodotoma) harpa
(Dall, 1884)

Fig. 107; 137 U, W-X

Bela harpa Dall, 1884: 523;

Oenopota (Nodotoma) harpa— Bogdanov, 1990: 151-152, 155-160, 397, 415, 416, 454, 455.

H 31.4 mm, D 11.4 mm (off Kolguev Island)

DISTRIBUTION. Pacific boreal-arctic species, found in the Norwegian, Barents, White, Kara, Laptev, Chuckchee, Bering, Okhotsk and Japan seas and British Colombia.

ECOLOGY. The species lives at depth 6-324 m, on the silty with stones and shell-debris substrates, at temperatures from -2.2°C to 9.11°C (often at -1.96 — $+2^{\circ}\text{C}$) and at salinity 25.6-35.04‰.

Oenopota (Nodotoma) cinerea
(Moeller, 1842)

Fig. 107; 137 R

Defrancia cinerea Moeller, 1842: 86;

Bela cinerea— G.O. Sars, 1878: 227, Tab. 23, f. 4; Thorson, 1941: 101;

Oenopota cinerea— Macpherson, 1971: 114, Pl. 7, f. 5, map 50;

Oenopota (Nodotoma) cinerea— Bogdanov, 1990: 147-148, f. 136-139, 394, 414, 452.

H 22 mm, D 10 mm (off Spitzbergen)

DISTRIBUTION. Atlantic boreal-arctic species, found in the Greenland, Norwegian, Barents, Kara, Laptev and Bofort seas and off Scotland.

ECOLOGY. The species lives at depths from 4.5 (in the Arctic Canada) to 761 m (off Spitzbergen), on the silty substrates, at temperatures from 1.69°C to 1.6°C and at salinity 34.3-34.67‰.

Oenopota (Nodotoma) declivis
(Loven, 1846)

Fig. 107; 137 S

Tritonium declivis Loven, 1846: 145;

Bela declivis— G.O. Sars, 1878: 224, Tab. 16, f. 10; Thorson, 1941: 99; Thorson, 1944: 121-122;

Oenopota declivis— Macpherson, 1971: 115, Pl. 7, f. 10, map 51;

Oenopota (Nodotoma) declivis— Bogdanov, 1990: 148-149, f. 37, 140-146, 395, 416, 417, 453.

H 20 mm, D 9 mm (off Norway)

DISTRIBUTION. Atlantic upper-boreal arctic species, found in the Greenland, Norwegian, Barents and Kara seas and adjacent waters of the Atlantic.

ECOLOGY. The species lives at depth 15-860 m, on the silty substrates, at temperatures from negative to 1.5°C and at salinity of 33-35‰.

Oenopota (Nodotoma) elegans
(Moeller, 1842)

Fig. 108; 137 T

Defrancia elegans Moeller, 1842: 86;

Bela elegans— G.O. Sars, 1878: 225, Tab. 16, f. 215; Thorson, 1941: 99-100;

Oenopota elegans— Macpherson, 1971: 117, Pl. 7, f. 7, map 51;

Oenopota (Nodotoma) elegans— Bogdanov, 1990: 150-151, f. 147-154, 396, 416, 453.

H 17.6 mm, D 7 mm (from the southern part of the Barents Sea)

DISTRIBUTION. Atlantic boreal-arctic species, found in the Norwegian, Greenland, Barents and Kara seas to the Biskay Bay in the Atlantic.

ECOLOGY. The species lives at depth 21-1203 m, mainly on the silty with stones, pebbles and shell-debris substrates, at temperatures from 1.8°C to 3.6°C and at salinity 32.76-35.04‰.

Genus *OBESOTOMA* Bartsch, 1941

Obesotoma simplex
(Middendorff, 1849)

Fig. 108; 138 A-B

Pleurotoma simplex Middendorff, 1849: 119;

Bela simplex— G.O. Sars, 1878: 239-240, Tab. 17, f. 4, Tab. 23, f. 11; Thorson, 1941: 107; Thorson, 1944: 115-116;

Oenopota simplex— Golikov, 1987: 124-125, f. 70;

Obesotoma simplex— Bogdanov, 1990: 161-163, f. 214-218, 400, 424, 456, 457

H 16 mm, D 8.8 mm (from the Kandalaksha of the White Sea)

DISTRIBUTION. Pacific boreal-arctic, almost circumpolar species from the Japan, Okhotsk, Bering, Norwegian, Greenland, White and all Siberian seas.

ECOLOGY. The species lives from the low horizon of littoral zone (off Shantar Islands) to 150 m, mainly on the sandy and sandy-silty substrates with stones, pebbles and shell-debris, at temperatures from -1°C to 5°C and at salinity 18.8-33.95‰.

Obesotoma gigantea (Moerch, 1869)

Fig. 108; 138 C

Pleurotoma (Bela) violacea var. *gigantea* Moerch, 1869: 22;*Oenopota gigantea*— Golikov, 1987: 125-126, f. 71;*Obesotoma gigantea*— Bogdanov, 1990: 165-166, f. 222-225, 425, 459.

H 24.6 mm, D 13 mm (off Spitzbergen)

DISTRIBUTION. Eurasian arctic species, found in the Norwegian, Kara and Laptev seas, off Spitzbergen and Frantz Josef Land.

ECOLOGY. The species lives at depths of 9-260 m, on the sandy or, sometimes, silty substrates, at temperatures from negative to 4°C and at salinity 28-34.2‰.

Obesotoma schantarica

(Middendorff, 1849)

Fig. 109; 138 D

Pleurotoma shantarica Middendorff, 1849: 118;*Obesotoma schantarica*— Bogdanov, 1990: 163-164, Pl. 219-220, 424, 458.

H 28 mm, D 15 mm (from the Peter the Great Bay of the Japan Sea)

DISTRIBUTION. Pacific Asian, mainly boreal species, found in the Japan, Okhotsk, Bering and Chuckchee seas.

ECOLOGY. The species lives at depth 14.5-40 m, on the sandy, or, sometimes, sandy-silty substrates, at temperatures from -1.47°C to 12°C and at salinity 33.51-34.26‰.

Obesotoma gigas (Vekruzen, 1875)

Fig. 109

Pleurotoma (Bela) gigas Verkruzen, 1875: 239, Tab. 8, f. 6-7;*Obesotoma gigas*— Bogdanov, 1990: 164-165, f. 221, 421, 459.

H 12 mm, D 8 mm (type)

DISTRIBUTION. Eurasian subarctic species, found in the Norwegian and Barents seas.

ECOLOGY. Unknown.

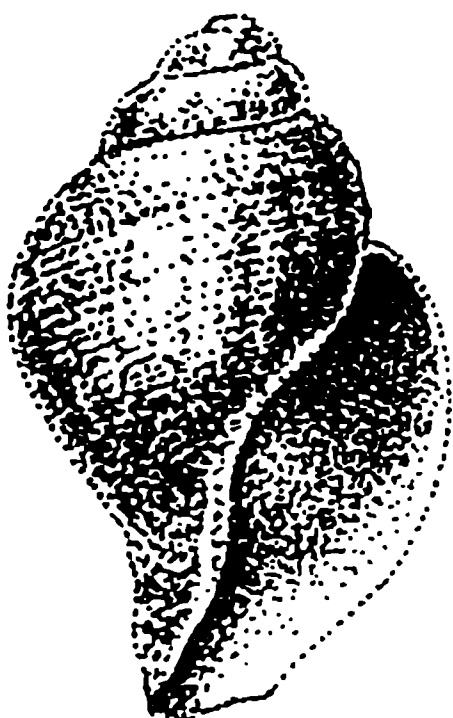


FIG 51 *Obesotoma gigas*
(Verkruzen, 1875).

Obesotoma tenuilirata (Dall, 1878)

Fig. 109; 138 E

Bela laevigata var. *tenuilirata* Dall, 1871: 98;*Obesotoma tenuilirata*— Bogdanov, 1990: 166-167, f. 40, 231-235, 400, 426, 460.

H 23.3 mm, D 10.5 mm (off Alaska)

DISTRIBUTION. American-asian boreal-subarctic species from the Japan, Okhotsk, Bering and Chuckchee seas.

ECOLOGY. The species lives at depth 9-210 m, mainly on the silty substrates, at temperatures from negative to 10°C and at salinity 32.5-34‰.

Obesotoma woodiana

(Moeller, 1842)

Fig. 110; 138 F

Defrancia woodiana Moeller, 1842: 86;*Obesotoma woodiana*— Bogdanov, 1990: 167-168, f. 236-240, 241, 243, 461.

H 16.2 mm, D 9 mm (from the Barents Sea)

DISTRIBUTION. Atlantic subarctic species, from the Barents and Norwegian seas and off Frantz Josef Land.

ECOLOGY. The species lives at depth 5-240 m, on the silty-sandy and sloam substrates, at temperatures from -0.98°C to 6.54°C and at salinity 32.47-34.3‰.

Obesotoma robusta (Packard, 1867)

Fig. 110; 138 G

Bela robusta Packard, 1867: 232, Pl. 7, f. 12;*Obesotoma robusta*— Bogdanov, 1990: 169-170, f. 243-248, 423, 462.

H 15.2 mm, D 8 mm (from the Chikhachev Bay)

DISTRIBUTION. Pacific boreal-subarctic species, found in the Japan, Okhotsk, Bering and Chuckchee seas and off Labrador.

ECOLOGY. The species lives at depth 7-660 m, on the silty and sandy substrates, at temperatures from -1.78°C to 1.75°C and at salinity 31.11-33.53‰.

Obestoma starobogatovi

Bogdanov, 1990

Fig. 110; 138 H

Obestoma starobogatovi Bogdanov, 1990: 171-172, f. 58, 226-230, 400, 425, 426.

H 11.8 mm, D 6 mm (from the Laptev Sea)

DISTRIBUTION. Arctic Eurasian species, found in the Kara, Laptev and East Siberian seas.

ECOLOGY. The species lives at depth 3-40 m, on the sandy, silty and argillaceous substrates, at temperatures from -1.02°C to 2.09°C and at salinity 29.22-31.61‰.

Obesotoma tumida
(Posselt et Jensen, 1898)

Fig. 110; 138 I

Bela woodi *tumida* Posselt et Jensen, 1898: 145, Tab. 1, f. 3a;

Obesotoma tumida— Bogdanov, 1990: 168-169, f. 241-242, 423.

H 13 mm, D 7 mm

DISTRIBUTION. Eurasian Arctic species, found in the East Siberian and Laptev seas and off western Greenland.

ECOLOGY. Unknown.

Genus *PROPEBELA* Iredale, 1918

Propebela (Propebela) nobilis
(Moeller, 1842)

Fig. 111; 138 J

Defrancia nobilis Moeller, 1842: 85;

Bela nobilis— G.O. Sars, 1878: 228, Tab. 16, f. 19, 20;

Lora nobilis— Filatova, Zatsepin, 1948: 389, Pl. 98, f. 13;

Propebela (Propebela) nobilis— Bogdanov, 1990: 179-181, f. 316-321, 431, 464, 465.

H 29 mm, D 13.9 mm (from the Barents Sea)

DISTRIBUTION. Pacific boreal-arctic circumpolar species, found in the Japan, Okhotsk, and Bering seas and adjacent waters of the Pacific.

ECOLOGY. The species lives at depths from 7 to 515-1710 m, mainly on the sandy and silty substrates, at temperatures from -2°C to 12.8°C and at salinity 26-31.8‰.

Propebela (Propebela) spitzbergensis
(Friele, 1886)

Fig. 52; 111

Bela regulata var *spitzbergensis* Friele, 1886: 4, Pl. 7, f. 3-4, Pl. 9, f. 6;

Propebela (Propebela) spitzbergensis— Bogdanov, 1990: 184-185, f. 344-347, 432, 466.

● H 19 mm, D 10 mm (off Spitzbergen)

DISTRIBUTION. Eurasian Arctic species, found off Greenland, Norwegian, Barents, White, Kara and Laptev seas.

ECOLOGY. The species lives at depth 7-450 m, mainly on the silty substrates, at temperatures -1.8 - 1.2°C and at salinity of 31.64-35.03‰.

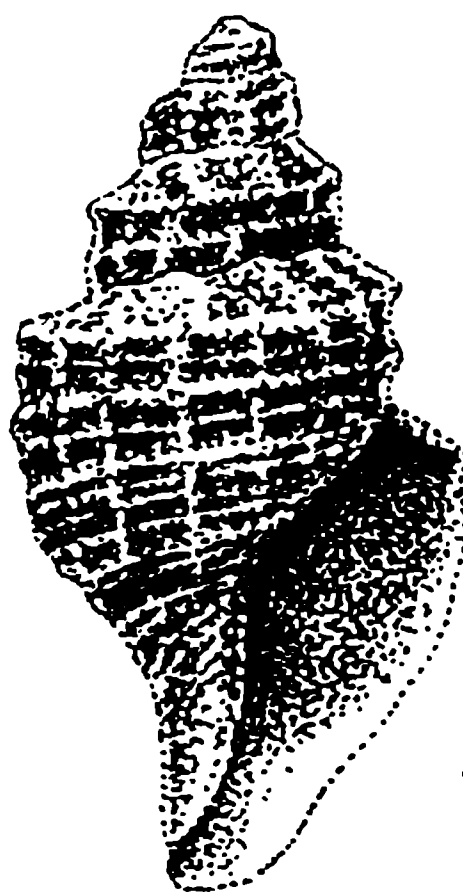


FIG. 52. *Propebela (P) spitzbergensis* (Friele, 1886).

Propebela (Propebela) assimilis
(G.O. Sars, 1878)

Fig. 111; 138 K

Bela assimilis G.O. Sars, 1878: 231, Tab. 23, f. 8;

Propebela (Propebela) assimilis— Bogdanov, 1990: 181-183, f. 327, 404, 432, 466, 467.

H 24.5 mm, D 11.5 mm

DISTRIBUTION. Pacific boreal-arctic species, found in the Norwegian, Barents, White, Kara, Bering, Okhotsk and Japan seas.

ECOLOGY. The species lives at depth 10-187 m, on the silty-sandy substrates, at temperature from negative to 12°C and at salinity of 26-35‰.

Propebela (Propebela) rugulata
(Moeller in Troschel, 1886)

Fig. 112; 138 L

Bela rugulata Moeller in Troschel, 1866-1893: 44, Tab. 4, f. 6;

Bela rugulata— G. O. Sars, 1878: 230, Tab. 23, f. 6;

Propebela (Propebela) rugulata— Bogdanov, 1990: 183-184, f. 330-353, 401, 434, 468.

H 21.5 mm, D 11.5 mm

DISTRIBUTION. Atlantic upper-boreal arctic species, found from the Norwegian, Barents, White, Kara and Laptev seas to Cape Cod.

ECOLOGY. The species lives at depth 9.5-500 m, on the silty substrates, at temperatures from -1.6°C to 6.2°C and at salinity 25.6-35‰.

Propebela (Propebela) scalaris
(Moeller, 1842)

Fig. 112; 138 M

Defrancia scalaris Moeller, 1842: 85;

Bela scalaris— G.O. Sars, 1878: 22, Tab. 23, f. 5, Tab. 8, f. 16;

Lora scalaris— Filatova, Zatsepin, 1948: 38, Pl. 98, f. 17;

Propebela (Propebela) scalaris— Bogdanov, 1990: 188, 189, f. 275-383, 402, 403, 437, 438, 469.

H 25 mm, D 11 mm

DISTRIBUTION. Atlantic boreal-arctic species, found from Cape Cod to Labrador, in the Greenland, Norwegian, Barents, White, Kara, Laptev seas; to Sitka Island in the Bering Sea.

ECOLOGY. The species lives at depth 1.5-660 m, mainly on the sandy, often silty substrates, at temperatures -1.9-5.5°C and at salinity 31.3-35‰.

Propebela (Propebela) scalaroides
(G.O. Sars, 1878)

Fig. 112; 138 N

Bela scalaroides G.O. Sars, 1878: 291, Tab. 23, f. 7;

Propebela (Propebela) scalaroides— Bogdanov, 1990: 189-190, f. 38, 384-385, 403, 438, 469.

H 26.5 mm, D 11.5 mm

DISTRIBUTION. Eurasian, mainly arctic species, found in the Greenland, Norwegian, Barents and Kara seas.

ECOLOGY. The species lives at depth 3-426 m, on the silty substrates, at temperature -1.7—3.2°C and at salinity of 33.58-34.94‰.

Propebela (Propebela) harpularia
(Couthouy, 1838)

Fig. 113; 138 O

Fusus harpularia Couthouy, 1838: 106, Pl. 1, f. 10;

Bela harpularia— G.O. Sars, 1878: 239, Tab. 16, f. 17

Lora harpularia— Filatova, Zatsepin, 1948: 389, Pl. 98, f. 15;

Oenopota harpularia— Macpherson, 1971: 117, map 52;

Propebela (Propebela) harpularia— Bogdanov, 1990: 186-187, f. 355-367, 404, 433, 463.

H 17 mm, D 7.5 mm (from the Northern America)

DISTRIBUTION. Widely spread boreal-arctic species, found northward of Cape Cod and off southern Norway, in the Greenland, Norwegian, Barents, White, Kara, Laptev, East Siberian, Bering, Okhotsk, and Japan seas and adjacent waters.

ECOLOGY. The species lives at depth 5-693 m, mainly on the silty and substrates, at temperature -1.8-7.5°C and at salinity 27.1-35‰.

Propebela (Canetoma) fidicula
(Gould, 1858)

Fig. 113; 138 P

Fusus fidicula Gould, 1850: 142;

Propebela (Canetoma) fidicula— Bogdanov, 1990: 200, f. 294, 427.

H 12.4 mm, D 5.6 mm

DISTRIBUTION. Pacific american-asian upper-boreal-arctic species, found in Pudget-Sound and off eastern Kamchatka, in the Chuckchee Sea.

ECOLOGY. Unknown.

Propebela (Canetoma) exarata
(Moeller, 1842)

Fig. 53; 113

Defrancia exarata Moeller, 1842: 85;

Bela exarata— G.O. Sars, 1878: 232, Tab. 9, f. 1, Tab. 16, f. 18; Thorson, 1941: 103-104; Thorson, 1944: 114-115;

Lora exarata— Filatova, Zatsepin, 1948: 389, Pl. 98, f. 16;

Propebela (Canetoma) exarata— Bogdanov, 1990: 196-198, f. 276-278, 405, 428, 473.

H 12 mm, D 5.6 mm

DISTRIBUTION. Atlantic upper-boreal-arctic species, found in the Greenland, Norwegian, Barents, White, Kara, Laptev, East Siberian seas, and in off New England.

ECOLOGY. The species lives at depth 4-2214 m, on the silty and sandy substrates, at temperatures from -1.76°C to 6.85°C and at salinity 33.34-34.9‰.

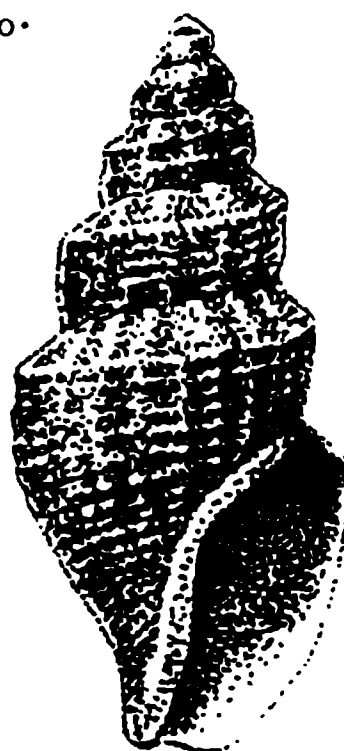


FIG 53. *Propebela (C.) exarata* (Moeller, 1842).

Propebela (Canetoma) viridula
(Moeller, 1842)

Fig. 113; 138 Q

Defrancia viridula Moeller, 1842: 87;

Bela viridula— G.O. Sars, 1878: 235, Tab. 9, f. 5, Tab. 16, f. 7, 8;

Propebela (Canetoma) viridula— Bogdanov, 1990: 195-196, f. 265-273, 406, 420, 471, 472.

H 14.3 mm, D 7 mm (from the Barents Sea)

DISTRIBUTION. Pacific boreal-arctic species, found in the Norwegian, Barents, White, Kara, Laptev, East Siberian, Bering, Okhotsk, and Japan seas.

ECOLOGY. The species lives at depth 0-780 m, mainly on the sandy and silty substrates, at temperatures from -1.64°C to 7.6°C and at salinity 27.39-34.87‰.

Subfamily **RAPHITOMINAE**
Bellardi, 1875

Genus *TARANIS* Jeffreys, 1870

Taranis amoena (G.O. Sars, 1878)

Fig. 54; 114

Raphitoma amoena G.O. Sars, 1878: 220, Tab. 17, f. 10a, b;

Raphitoma amoena— Thorson, 1944: 122-123;

Taranis amoena— Thiele, 1928: 605; Macpherson, 1971: 124, Pl. VII, f. 4, map 53.

H 7.7 mm, D 3.3 mm (off eastern Greenland)

DISTRIBUTION. Atlantic species, found in the Greenland, Norwegian, Barents seas and off Arctic Canada.

ECOLOGY. The species lives at depth 15-1187 m, on silty substrates, at temperatures from negative to 3°C and at salinity 34-35‰. The females lay translucent smooth egg capsules, containing 2 embryos. Development is direct.

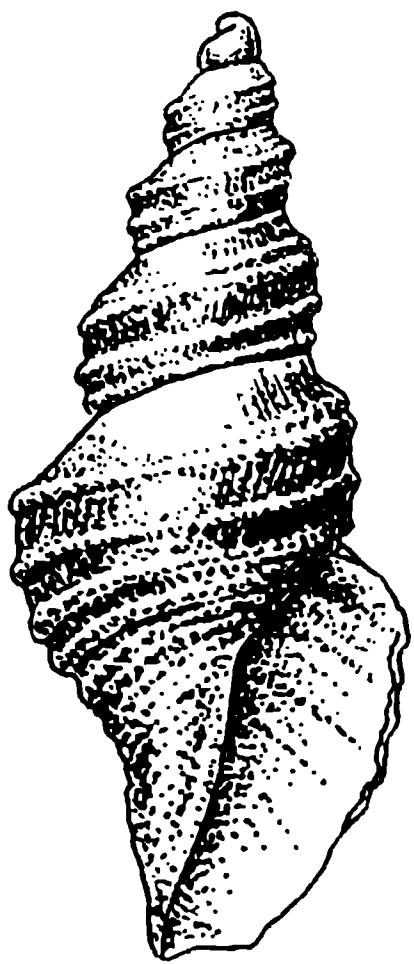


FIG. 54. *Taranis amoena* (G.O. Sars, 1878).

Superorder **PYRAMIDELLIMORPHA**
Golikov et Starobogatov, 1975

Order **EPITONIIFORMES**
Minichev et Starobogatov, 1979
(=PTENOGLOSSA Gray, 1853)

Family **EPITONIIDAE** Berry, 1910

Genus *BOREOSCALA* Kobelt, 1907

Boreoscala groenlandica
(Moeller, 1842)

Fig. 114; 138 R

Scalaria groenlandica Moeller, 1842: 85;

Scalaria groenlandica— G.O. Sars, 1878: 194-195, Tab. 10, f. 15a,b; Thorson, 1941; 47-48; Thorson, 1944: 42;

Scala (Boreoscala) groenlandica— Thiele, 1928: 587; Filatova, Zatsepin, 1948: 375, Pl. 98, f. 3;

Boreoscala groenlandica— Golikov, 1987: 134, f. 82.

H 29 mm, D 11.5 mm (from the White Sea)

DISTRIBUTION. Widely spread boreal-arctic, almost circumpolar species, found to northern England and Massachusetts in the Atlantic, and to northern Japan and southern Alaska in the Pacific.

ECOLOGY. The species lives at depth 36-500 m, mainly on the sandy and silty with pebbles and shell-debris substrates, at temperatures from negative (in the north of the area) to $5-8^{\circ}\text{C}$ (in the south of the area) and at salinity 29-34.8‰.

Order **PYRAMIDELLIFORMES**
Golikov et Starobogatov, 1975
(=HETEROSTROPHA Fischer, 1884)

Family **TURBONILLIDAE**
Locard, 1892

Genus *MENESTHO* Moeller, 1842

Menestho truncatula Odhner, 1915

Fig. 55; 114

Menestho truncatula Odhner, 1915: 175, Tab. 1, f. 13-16;

Menestho truncatula— Thiele, 1928: 587.

H 3.5 mm, D 2 mm (from the Kara Sea)

DISTRIBUTION. Arctic species found in the Barents, White, Kara, Laptev, East Siberian and Chuckchee seas.

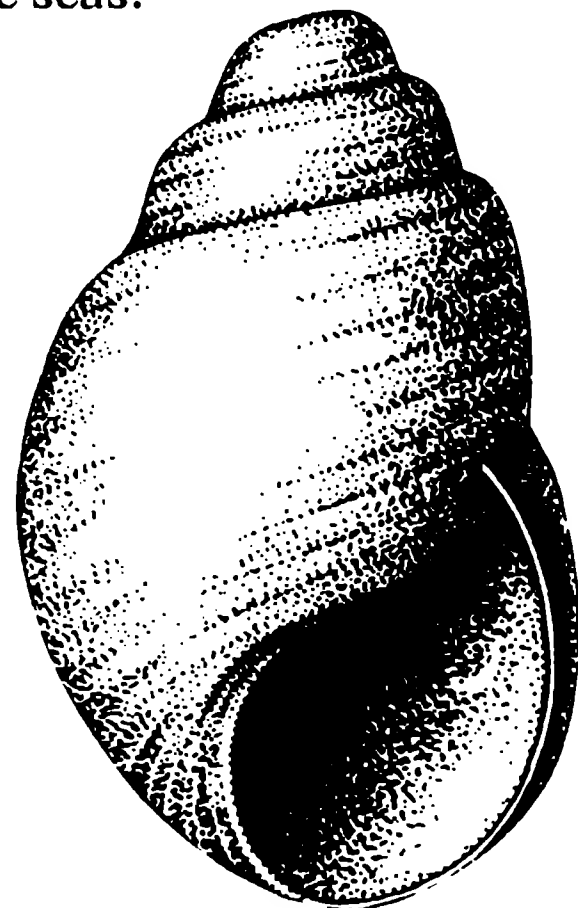


FIG. 55. *Menestho truncatula* Odhner, 1915.

ECOLOGY. The species lives at depths from 6 m (off Spitzbergen) to 241 m (in the Kola Bay), mainly on the silty substrates, at temperatures from -1.5 — -0.4°C (in the north of the area) to -0.2 — $+4.1^{\circ}\text{C}$ (in the south of the area), and at salinity 27.2-34.8‰.

Genus *LIOSTOMIA* G.O. Sars, 1878

Liostomia eburnea
(Stimpson, 1851)

Fig. 56; 114

Rissoa eburnea Stimpson, 1851: 14;

Liostoma eburnea— G.O. Sars, 1878: 206, Tab. 10, f. 13; Thiele, 1928: 588.

H 4.9 mm, D 2.8 mm (from the northern part of the Barents Sea)

DISTRIBUTION. Arctic species, found in the St. Lawrence Bay, Greenland, Norwegian, Barents, Kara, Laptev, East Siberian, Chuckchee seas and in the northern part of the Bering Sea.

ECOLOGY. The species lives at depth 3-355 m, mainly on sandy-argillaceous and silty substrates, at temperatures from -1.61 — -0.4°C (in the north of the area) to $2-5^{\circ}\text{C}$ and at salinity 33.7-34.5‰.

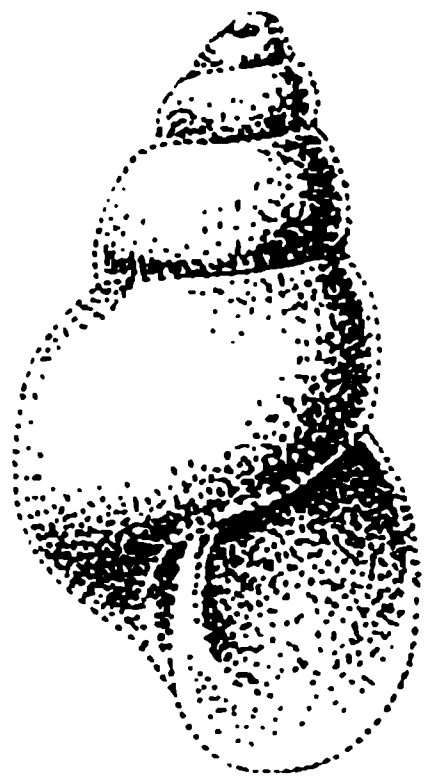


FIG. 56. *Liostomia eburnea* (Stimpson, 1851).

Genus *AMAURA* Moeller, 1842

Amaura candida Moeller, 1842

Fig. 57; 115

Amaura candida Moeller, 1842: 82;

Amaura candida— Thiele, 1928: 588; Golikov, 1988: 136-137, f. 84.

H 9.8 mm, D 5.4 mm (from the Barents Sea)

DISTRIBUTION. Mainly arctic, almost circumpolar (excluding Bofort Sea) species, penetrates the Bering Sea.

ECOLOGY. The species lives at depth 28-150 m, on sandy and silty-sandy substrates, at temperatures from -1.7 — -0.4°C to $0-2.9^{\circ}\text{C}$ and at salinity 29-34.8‰.

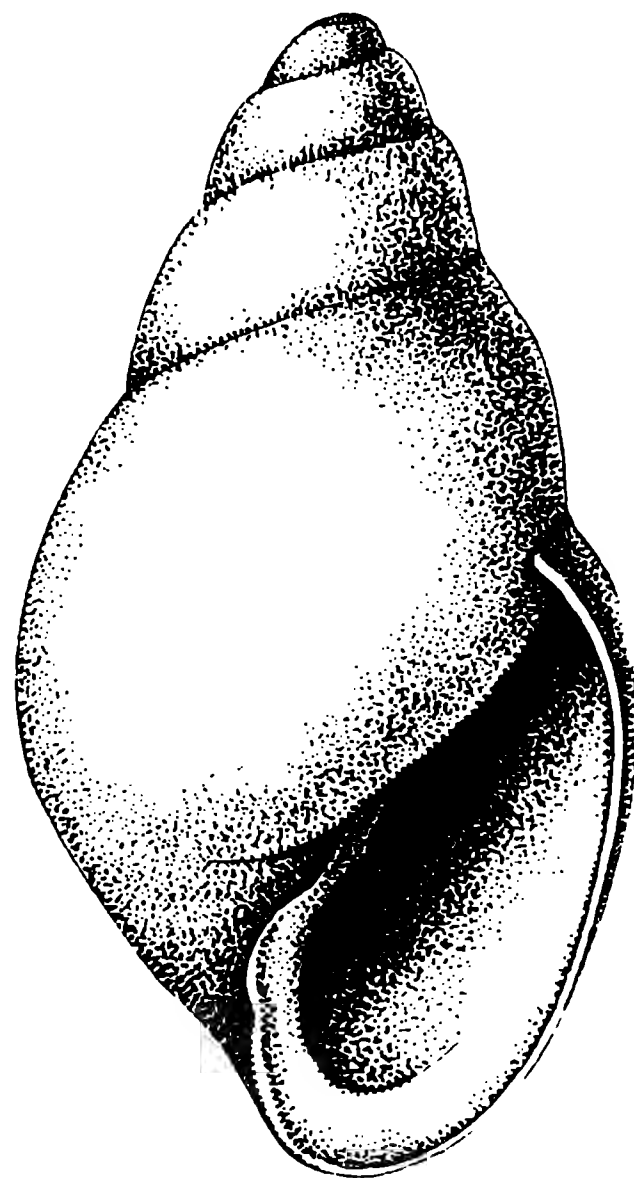


FIG. 57. *Amaura candida* Moeller, 1842.

Order **MELLANELLIFORMES**
Minichev et Starobogatov, 1979
(=**HOMOEOSTROPHA** Fischer, 1885)

Family **ACLIDIDAE** Loven, 1846

Genus *HEMIACLIS* G.O. Sars, 1878

Hemiaculis glabra G.O. Sars, 1878

Fig. 115; 138 S

Hemiaculis glabra G.O. Sars, 1878: 198, Tab. 11, f. 14, 15;

Hemiaculis glabra— Golikov, 1987: 138, fig. 85.

H 5.5 mm, D 2.7 mm (from the Norwegian Sea)

DISTRIBUTION. Atlantic upper-boreal species, found in the Norwegian, Barents and White seas.

ECOLOGY. The species lives at depth 40-90 m, mainly on hard substrates, at temperatures from negative (about 0°C) to $3-4^{\circ}\text{C}$ and at salinity 28.5-34.2‰.

Subclass **OPISTOBRANCHIA**
Milne-Edwards, 1848

Order **ACTEONIFORMES**
Minichev, 1967

Family **ACTEONIDAE**
Fischer, 1878

Genus *NEACTEONINA* Thiele, 1912

Neacteonina umbilicalis

Golikov et Fedjakov in Golikov, 1987

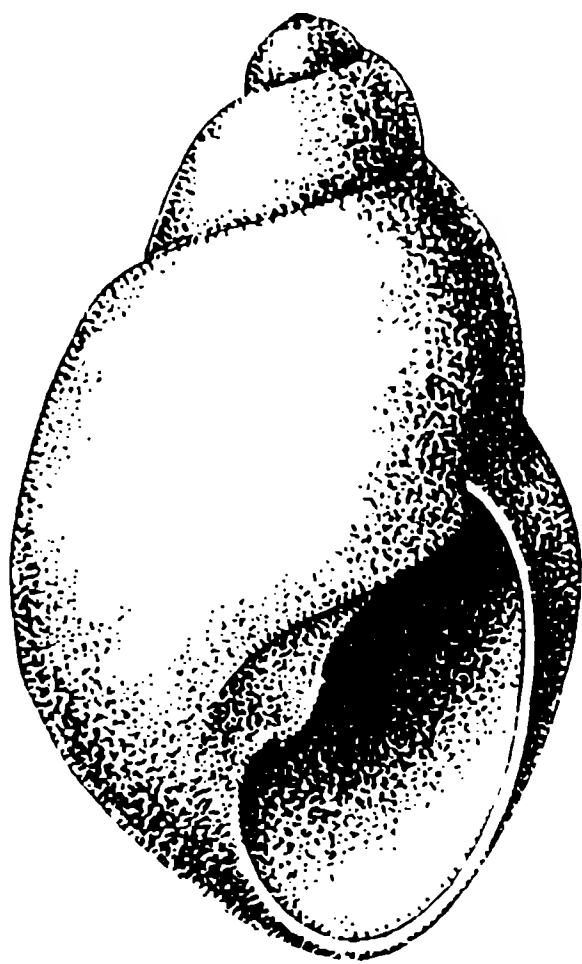
Fig. 58

Neactaeonina umbilicalis Golikov et Fedjakov, 1987: 140, f. 56.

H 2.2 mm, D 1.2 mm (holotype)

DISTRIBUTION. Supposedly, Arctic species. To the moment found only in the White Sea at the exit from the Dvina Bay.

ECOLOGY. The species lives at depth about 40 m. on the sandy with stones substrates, at temperatures from negative to 2-4°C and at salinity 28-30‰.

FIG 58. *Neactaeonina umbilicalis* Golikov et Fedjakov i Golikov, 1987.

Order **BULLIFORMES** Ferussac, 1822
(= **CEPHALASPIDEA** Fischer, 1883)

Family **OMALOGYRIDAE**

G.O. Sars, 1878

Genus *OMALOGYRA* Jeffreys, 1860*Omalogyra atomus* (Philippi, 1841)

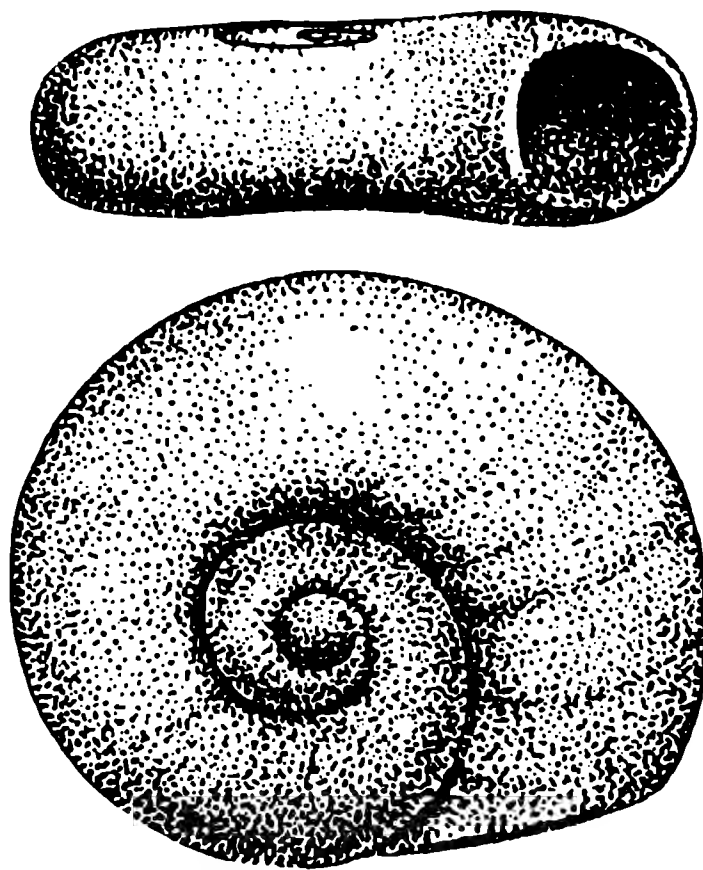
Fig. 59

Truncatella atomus Philippi, 1841: 54, Pl. 5, f. 4;*Homalogyra atomus*— G.O. Sars, 1878: 215, Tab. 22, f. 21, Tab. 8, f. 1; Thorson, 1941: 44; Thorson, 1944: 39-40;*Omalogyra atomus*— Golikov, 1987: 142, f. 87

H 0.9 mm, D 1.4 mm (off Greenland)

DISTRIBUTION. Atlantic European subtropical-boreal species, found from the Mediterranean to the White Sea, off Greenland and Iceland.

ECOLOGY. The species lives from the lower horizon of littoral zone to 40 m, mainly on the algae and on stony substrates, at temperatures from negative to 8°C (in the north of the area) and from 12°C to 23°C (in the south of the area), and at salinity of 26-34.5‰. The females lay small egg capsules containing one egg in each capsule upon the shells of the same species, stones and algae. Development is direct.

FIG. 59. *Omalogyra atomus* (Philippi, 1841).Family **SCAPHANDRIDAE**

G.O. Sars, 1878

Genus *SCAPHANDER*

Montfort, 1810

Scaphander punctostriatus

(Mighels, 1841)

Fig. 139 A-B

Bulla punctostriatus Mighels, 1841: 49;*Scaphander punctostriatus*— G.O. Sars, 1878: 292, Tab. 18, f. 8; Thiele, 1928: 606; Filatova, Zatsepin, 1948: 393, Pl. 103, f. 4.

H 31 mm, D 21 mm

DISTRIBUTION. Atlantic widely spread boreal species, found from England and Cape Cod to Newfoundland, Greenland, Iceland, Spitzbergen, White sea and eastern part of the Barents Sea.

ECOLOGY. The species lives at depth 16.5-300 m, mainly on the silty and silty-sandy substrates, at temperatures from -0.4-6°C (in the north of the area) to 5-8°C (in the south of the area) and at salinity 29-35‰.

Genus *CYLICHNA* Loven, 1846

Cylichna occulta (Mighels, 1841)

Fig. 115; 139 C

Bulla occulta Mighels, 1841: 50;*Bulla scalpta*— Reeve, 1855: 392, Pl. 32, f. 3;*Cylichna (Bullinella) scalpta*— Filatova, Zatsepin, 1948: 394, Pl. 103, f. 8a;*Cylichna occulta*— Golikov, 1987: 144-145, f. 89.

H 9 mm, D 6.3 mm (from the southern part of the Barents Sea)

DISTRIBUTION. Upper-boreal-arctic circumpolar species, found to Scotland, New England and southern part of the Bering Sea.

ECOLOGY. The species lives at depths from 2 m (off Franz Josef Land) to 329 (in the Norwegian Sea), mainly on the silty substrates, at temperatures from negative (in the north of the area) to 2-10°C (in the south of the area) and at salinity 23.2-34.5‰.

Cylichna alba (Brown, 1827)

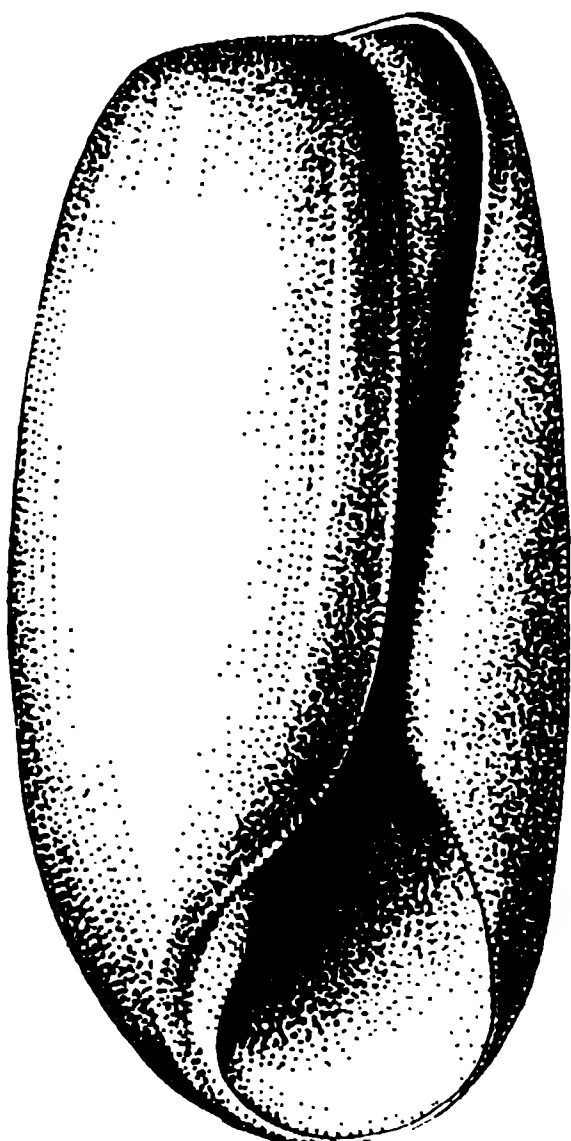
Fig. 60; 116; 139 D

Volvaria alba Brown, 1827: 3, Pl. 19, f. 43, 44;*Cylichna alba*— G.O. Sars, 1878: 283-284, Tab. 17, f. 15, 16;*Cylichna (Bullinella) alba*— Filatova, Zatsepin, 1948: 393, Pl. 103, f. 6, 7;*Cylichna alba*— Golikov, 1987: 145, f. 90.

H 11 mm, D 6.2 mm (from the Barents Sea)

DISTRIBUTION. Widely spread boreal-arctic circumpolar species, found to Azores and Cape Cod in the Atlantic and to northern Japan and California in the Pacific.

ECOLOGY. The species lives at depths from 2 m (in the White Sea) to 2222 m (in the Norwegian

FIG. 60. *Cylichna alba* (Brown, 1827).

Sea), mainly on the silty, often with sand and pebbles substrates, at temperatures from negative (in the north of the area) to 3-14.7°C and at salinity 22-35‰.

Family **RETUSIDAE** Thiele, 1926Genus *RETUSA* Brown, 1827*Retusa pertenuis* (Mighels, 1843)

Fig. 61; 116

Bulla pertenuis Mighels, 1843: 129;*Urticulus pertenuis*— G.O. Sars, 1878: 287-288, Tab. 17, f. 19a, b;*Retusa (Urticulus) pertenuis*— Filatova, Zatsepin, 1948: 392, Pl. 103, f. 1-3;*Retusa pertenuis*— Golikov, 1987: 146-147, f. 91

H 3.5 mm, D 2.2 mm (from the Kandalaksha Bay of the White Sea)

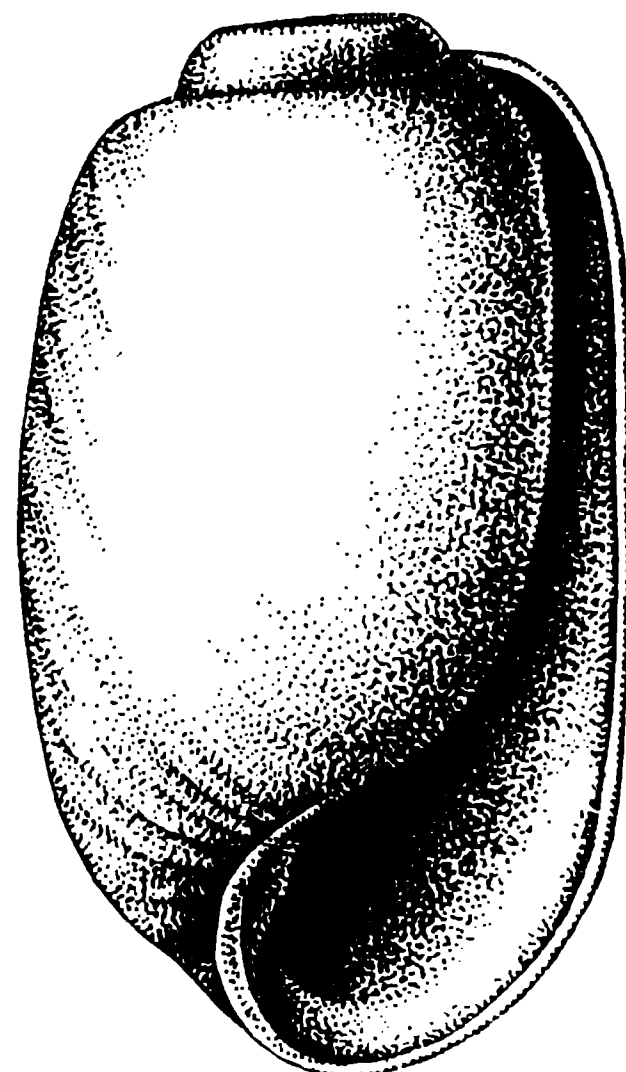
DISTRIBUTION. Atlantic upper-boreal-arctic species, found from Greenland to western part of the East Siberian Sea, and to western Norway and New England in the Atlantic.

ECOLOGY. The species lives at depths from 5 m (in the White Sea) to 299 m (off Spitzbergen), mainly on the sandy-silty substrates, at temperatures from negative to 0.2-6°C (in the south of the area) and at salinity of 25-34.6‰.

Family **DIAPHANIDAE** Thiele, 1931Genus *DIAPHANA* Brown, 1837*Diaphana minuta*

(Brown in Smith, 1839)

Fig. 62; 116

Bulla hyalina Turton, 1834: 353, (non Gmelin);FIG. 61. *Retusa pertenuis* (Mighels, 1843)

Urticulus minutus— Brown in Smith, 1839: 58, Pl. 19, f. 7,8;

Diaphana hyalina— G.O. Sars, 1878: 289, Tab. 18, f. 1a,b; Filatova, Zatsepin, 1948: 374, Pl. 103, f. 9a,

H 5 mm, D 3.6 mm (off Norway)

DISTRIBUTION. Atlantic boreal-arctic species, found from the England Channel and Cod Cape to the Laptev Sea.

ECOLOGY. The species lives at depths from 0 m (off Norway) to 68 m (in the Laptev Sea), mainly on the silty and sandy-silty, often with pebbles substrates, at temperatures from negative (in the north-east of the area) to 3-9°C (in the south of the area) and at salinity 28-35‰.

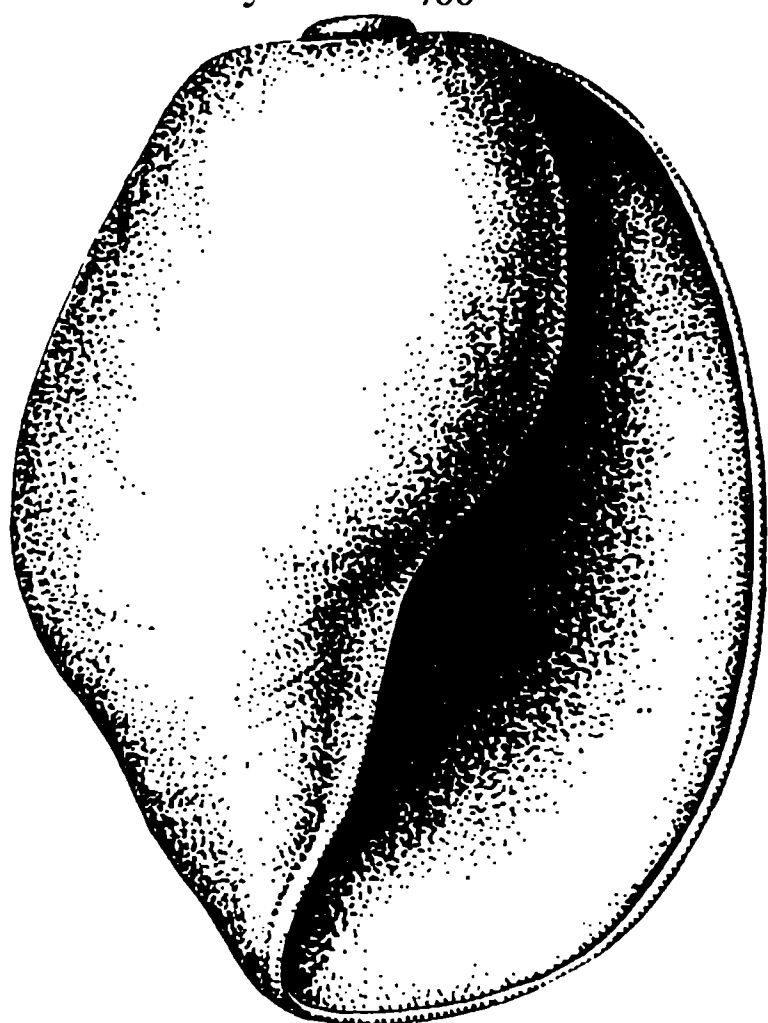


FIG. 62. *Diaphana minuta* (Brown in Smith, 1839)

Family PHILINIDAE Gray, 1850

Genus *PHILINE* Ascanius, 1772

Philine lima (Brown, 1827)

Fig. 63; 117

Urticulus lima Brown, 1827: 58, Pl. 19, f. 39, 40;

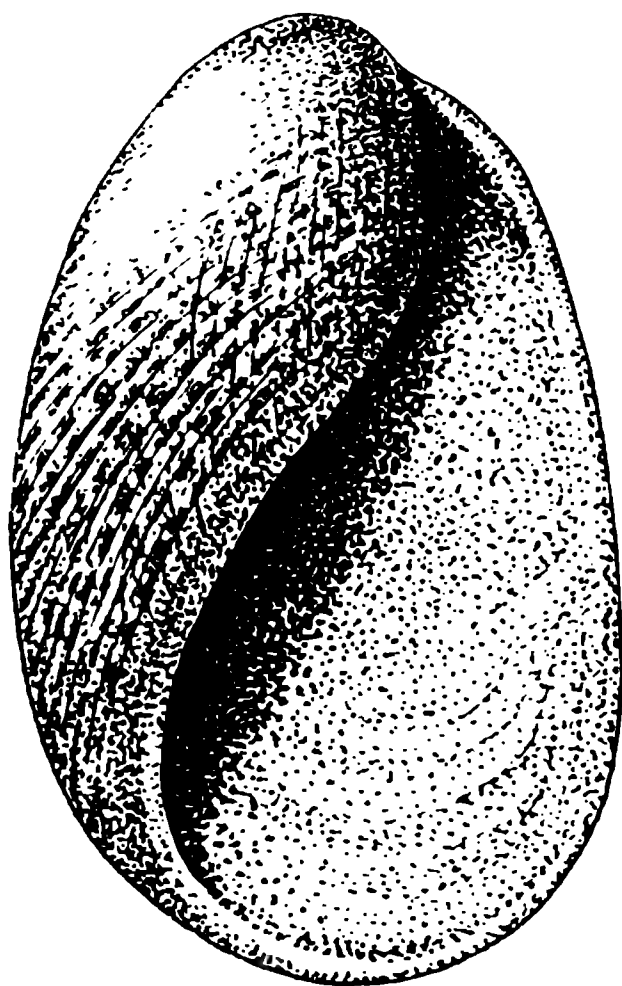


FIG. 63. *Philine lima* (Brown, 1827)

Philine lima— G.O. Sars, 1878: 300-301, Tab. 18, f. 12 a-f;

Philine (Ossiania) lima— Filatova, Zatsepin, 1948: 395, Tab. 103, f. 14.

H 7 mm (off Norway)

DISTRIBUTION. Atlantic upper-boreal-arctic species, found from the Norway to north-western Greenland and East Siberian Sea.

ECOLOGY. The species lives at depths from 11 m (in the White Sea) to 400 m (in the Norwegian Sea), mainly on the silty and silty-sandy substrates, at temperatures from negative to 1-6°C (in the south of the area) and at salinity 22.1-34.6‰.

Philine polaris Aurivillius, 1887

Fig. 64; 139 E

Philine polaris Aurivillius, 1887: 371, 380, Tab. 12, f. 21, 22;

Philine (Ossiania) polaris— Thiele, 1928.

H 3 mm, D 2 mm

DISTRIBUTION. Arctic species, found from Spitzbergen, Novaya Zemlya, and Novosibirskie Islands.

ECOLOGY. The species lives at depth 4-41 m, on the sandy and stony substrates, at temperatures from negative to 2-4°C and at salinity 28-33‰.

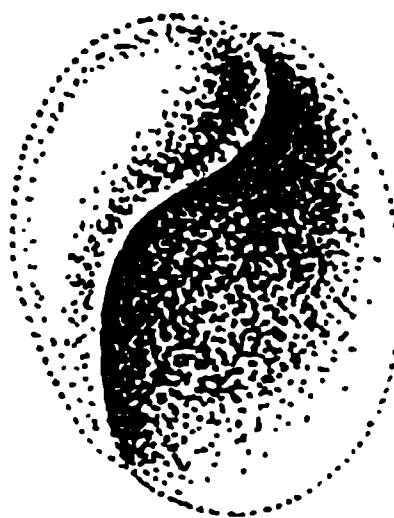


FIG. 64. *Philine polaris* Aurivillius, 1887.

Philine quadrata (Wood, 1839)

Fig. 65

Bullaena quadrata Wood, 1839: 461, Pl. 7, f. 1;

Philine quadrata— G.O. Sars, 1878: 299, Tab. 18, f. 9a-d; Thiele, 1928: 607; Filatova, Zatsepin, 1948: 395, Pl. 103, f. 13a-.



FIG. 65. *Philine quadrata* (Wood, 1839)

H 7 mm, D 5.6 mm (from the Norwegian Sea)

DISTRIBUTION. Atlantic boreal-arctic species, found from New England and Cod Cape to the East Siberian Sea.

ECOLOGY. The species lives at depth 24-450 m, mainly on the silty and sandy-silty substrates with gravel and stones, at temperature from negative to 2-6°C and at salinity 28-34.5‰.

Philine finmarchica G.O. Sars, 1878

Fig. 117; 139 F

Philine finmarchica G.O. Sars, 1878: 296, Tab. 18, f. 10a-d;

Philine finmarchica— Filatova, Zatsepin, 1948: 395, Tab. 103, f. 12a-.

H 13 mm, D 9 mm (from the Barents Sea)

DISTRIBUTION. Atlantic upper-boreal-arctic species, found from Lofoten Islands and Greenland to the East Siberian Sea.

ECOLOGY. The species lives at depths from 3 m (off the Novosibirskie Islands) to 345 m (in the Kara Sea), mainly on the sandy-silty substrates, at temperatures from negative to 2-6°C and at salinity 24-34.2‰.

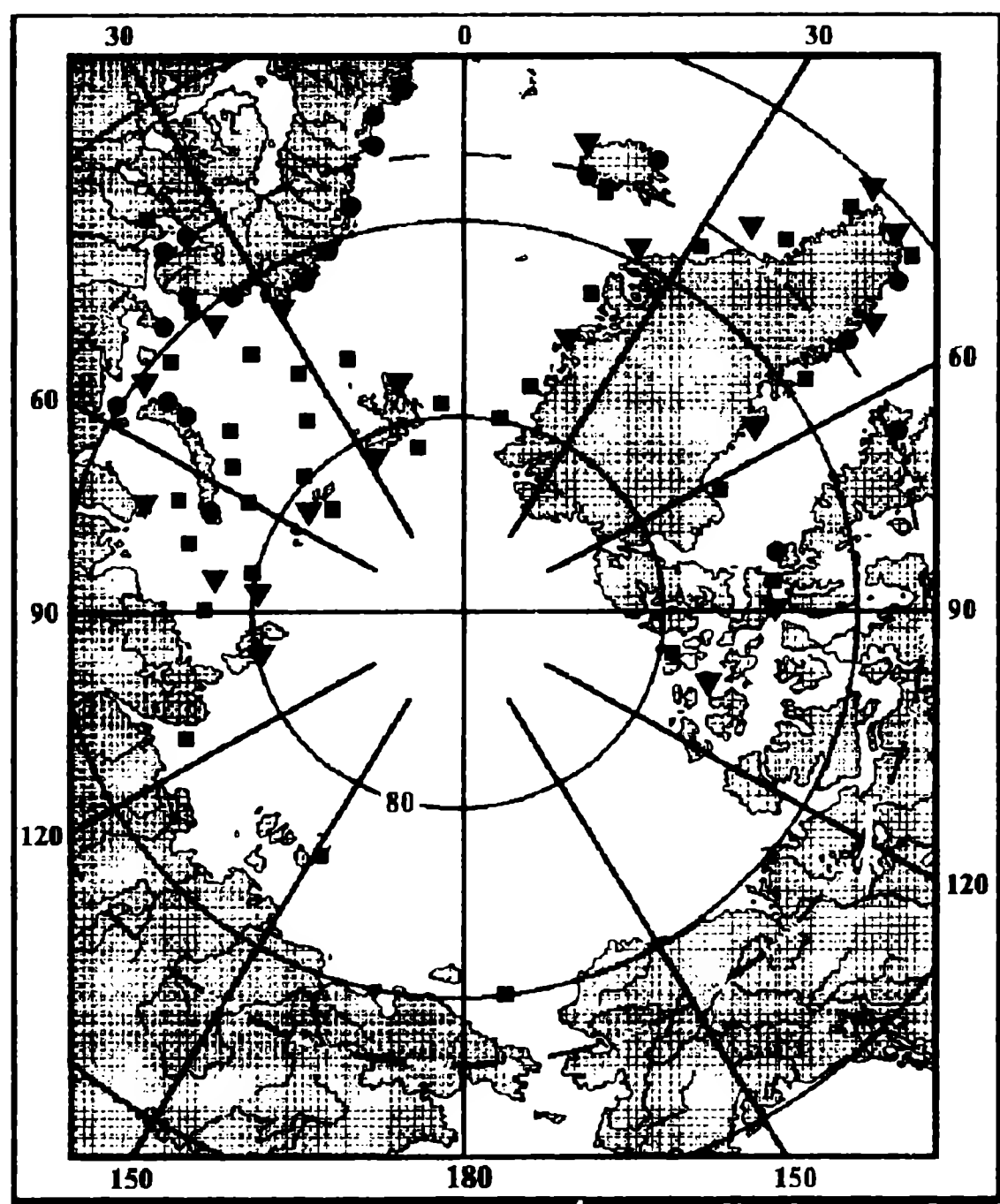


FIG. 66. Distribution of *Testudinalia tessellata* (Mueller, 1776) (black circles), *Erginus rubella* (Fabricius, 1780) (black triangles) and *Lepeta coeca* (Mueller, 1776) (black squares).

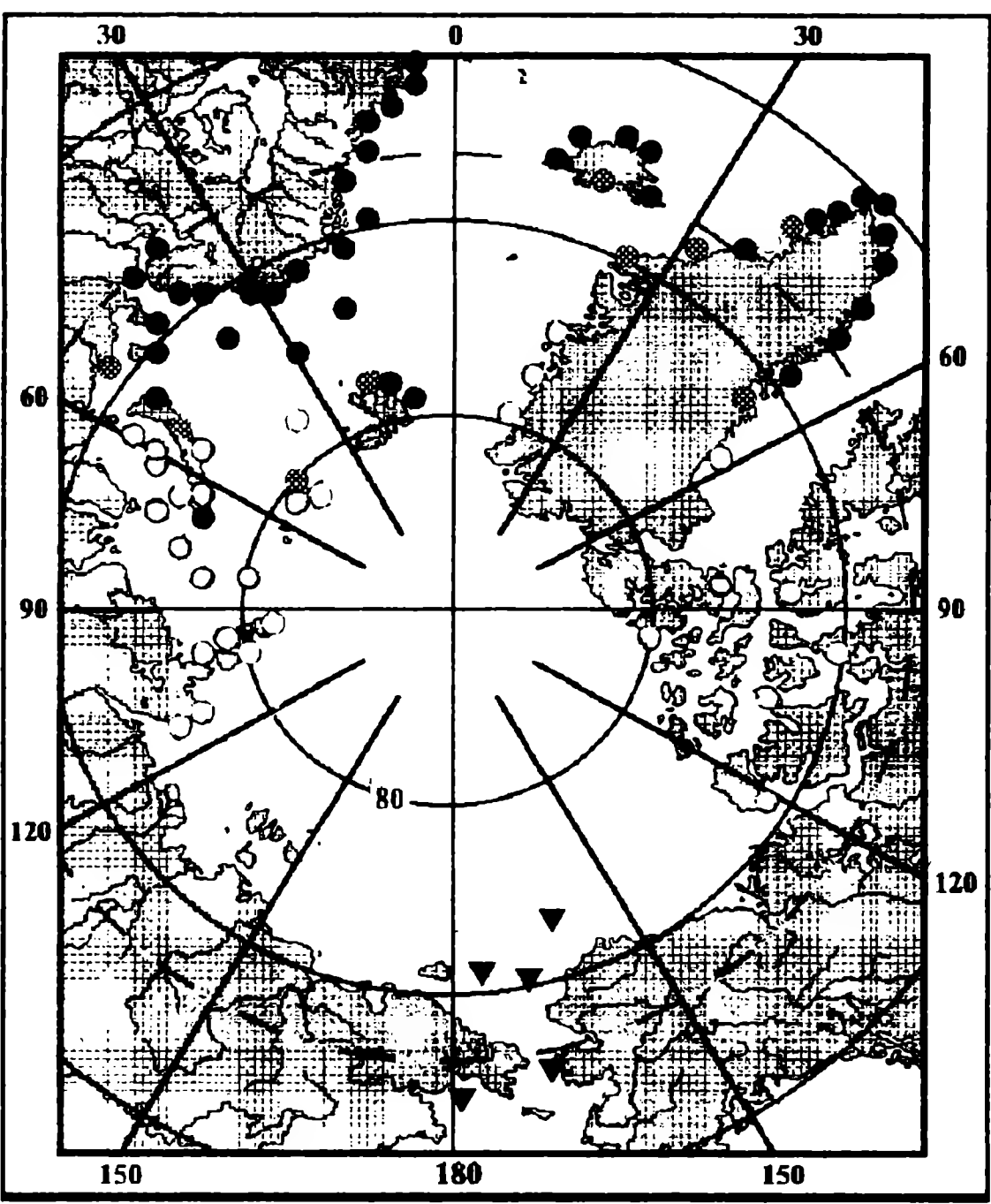


FIG. 68. Distribution of *Margarites groenlandica groenlandica* (Gmelin, 1790) (black circles), *M. g. umbilicalis* (Brod. et Sow. 1829) (white circles), transitional form between the subspecies *groenlandica* and *umbilicalis* (gray circles), *M. vorticifera* (Dall, 1875) (black triangles)

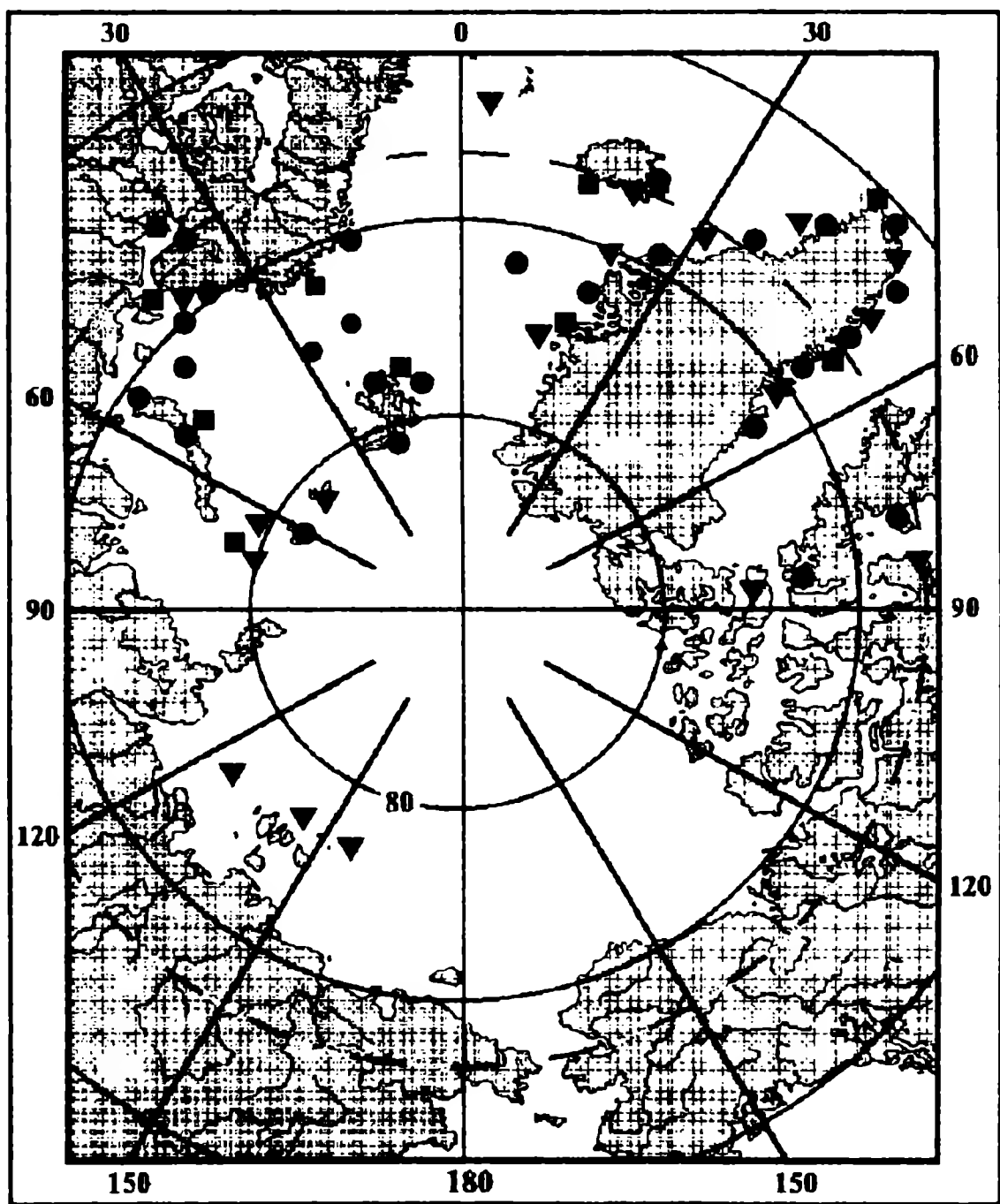


FIG. 67. Distribution of *Puncturella noachina* (L., 1771) (black circles), *Anatoma crispata* (Fleming, 1832) (black triangles) and *Moelleria costulata* (Moeller, 1842) (black squares).

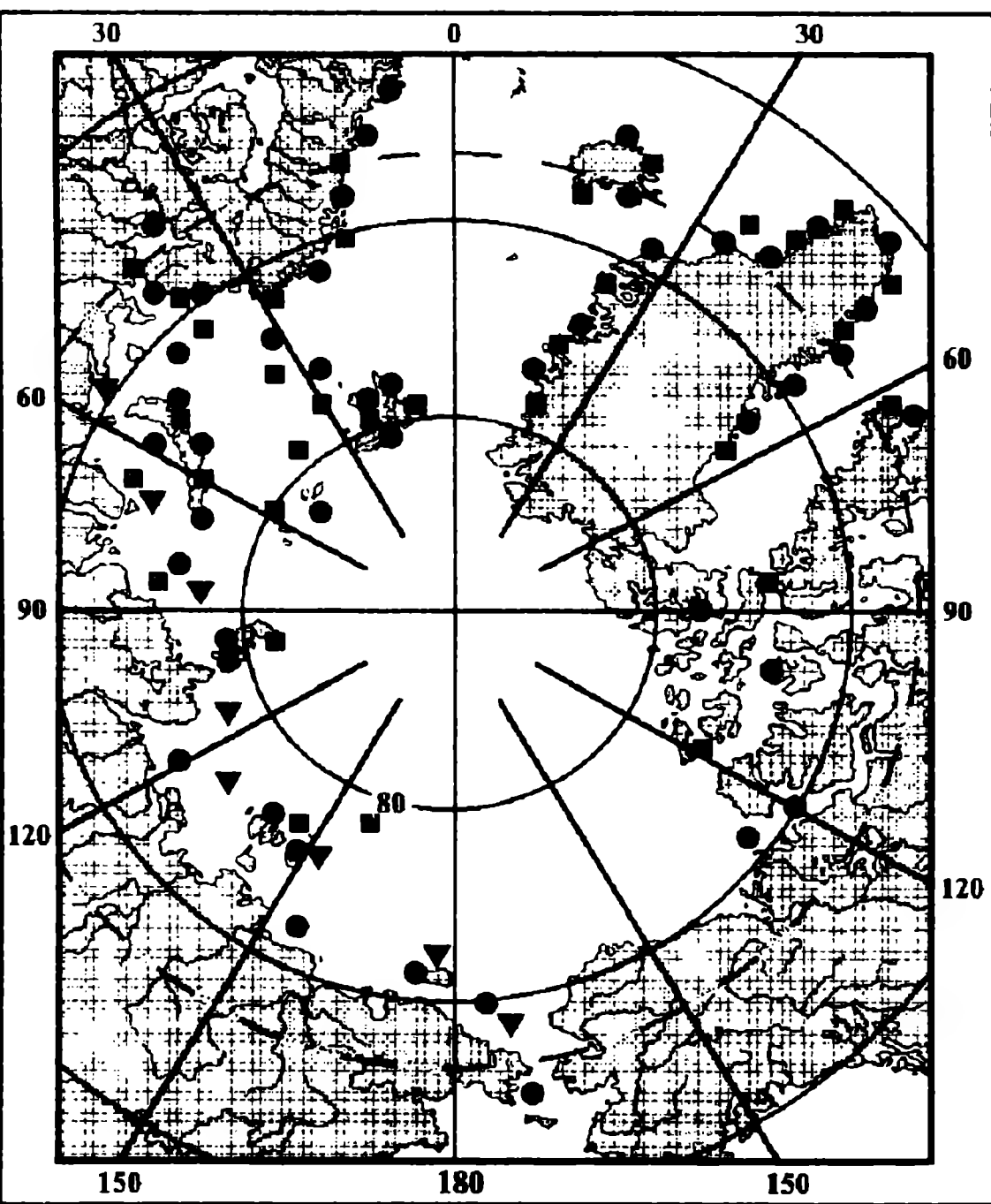


FIG. 69. Distribution of *Margarites costalis* (Gould, 1841) (black circles), *M. gigantea* (Leche, 1878) (black triangles) and *M. olivaceus* (Brown, 1827) (black squares)

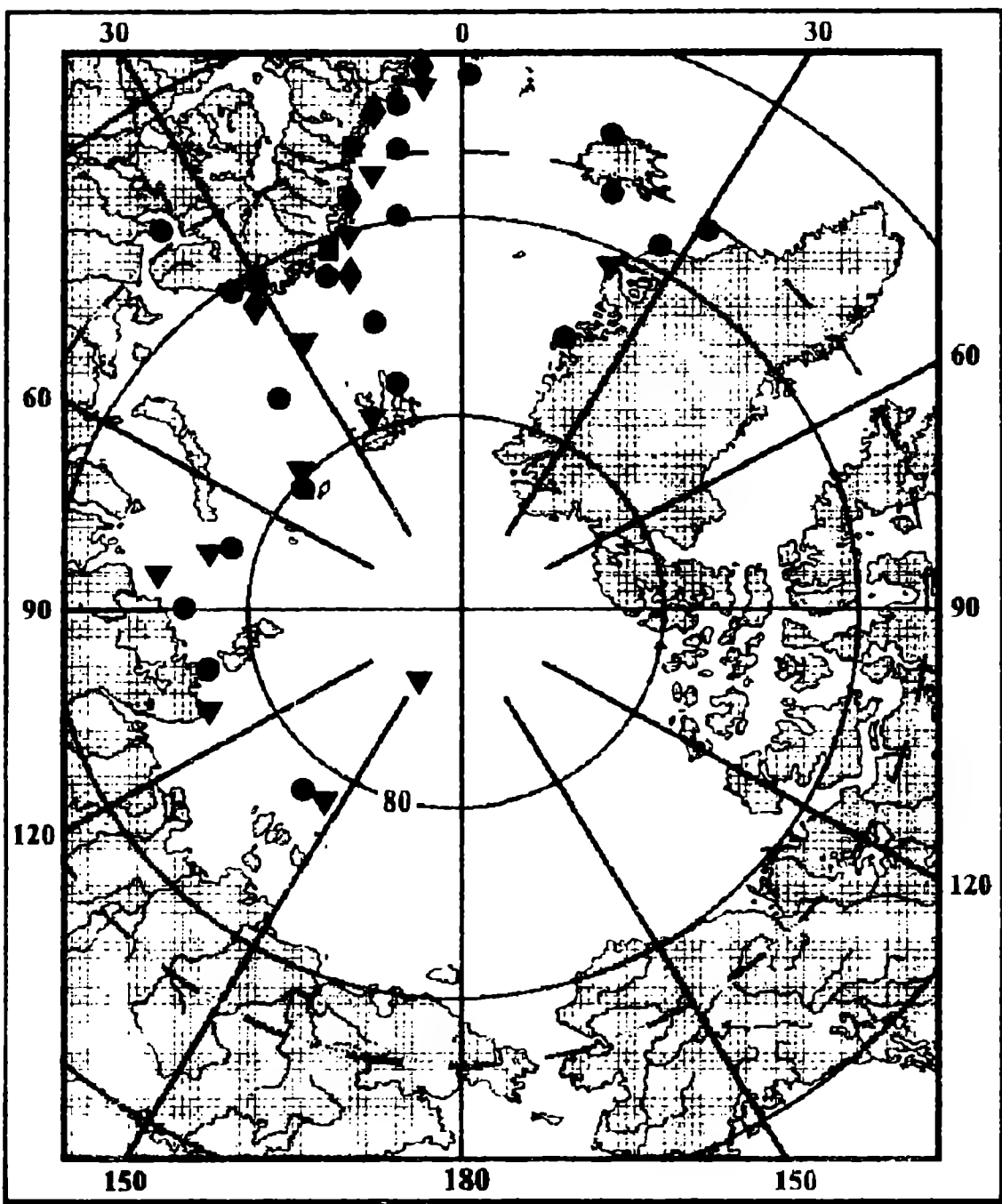
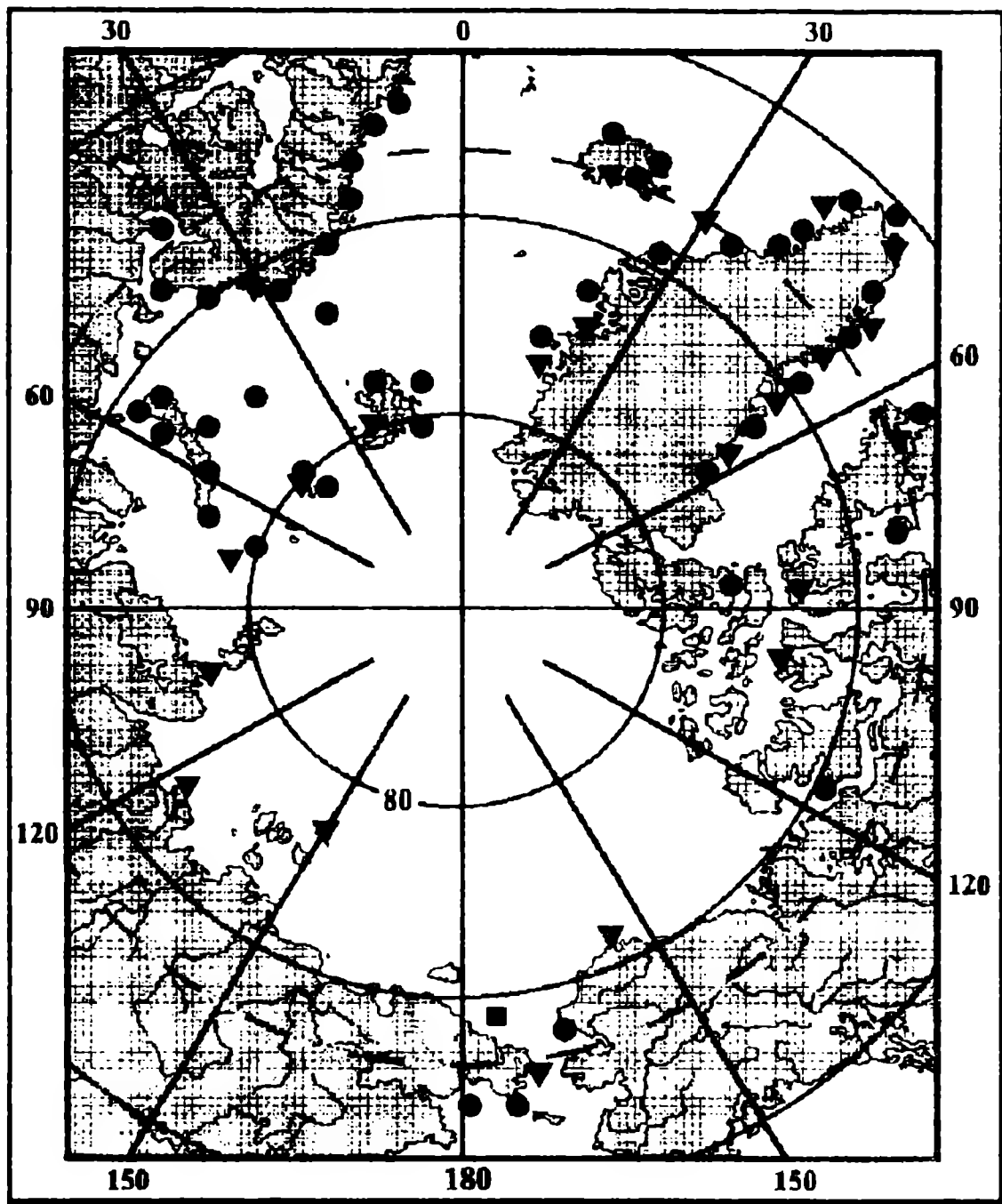


FIG. 70. Distribution of *Margarites helicinus* (Phipps, 1774) (black circles), *M. vahliei* (Moeller, 1842) (black triangles) and *M. (C.) frigida* Dall, 1919 (black squares).

FIG. 72. Distribution of *Ganesa laevigata* (Friele, 1876) (black circles), *G. basistriata* (Jeffreys, 1877) (black triangles), *Gibbul tumida* (Montagu, 1803) (black squares) and *Calliostom occidentale* (Migh. at Adams, 1842) (black rhombuses)

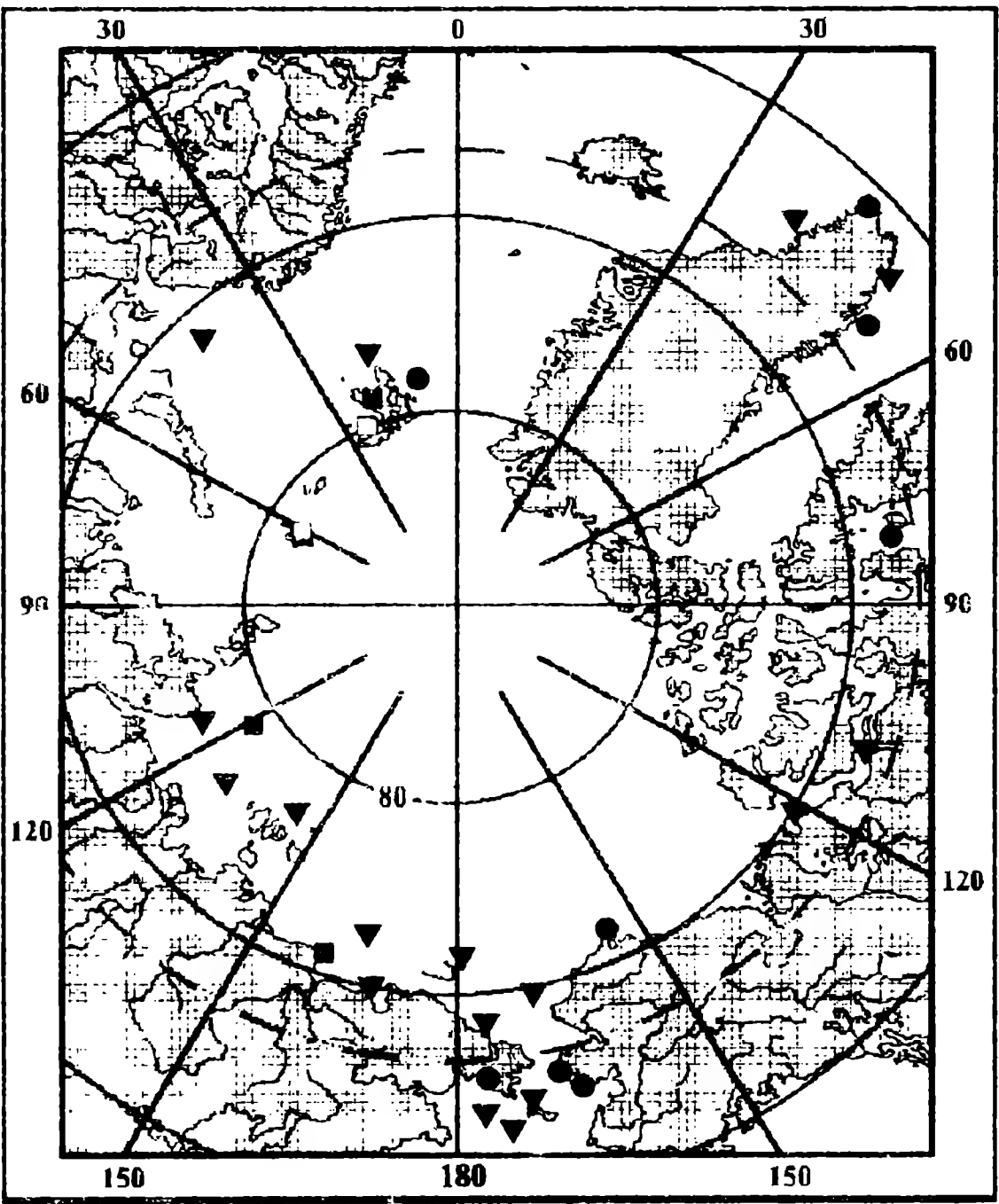
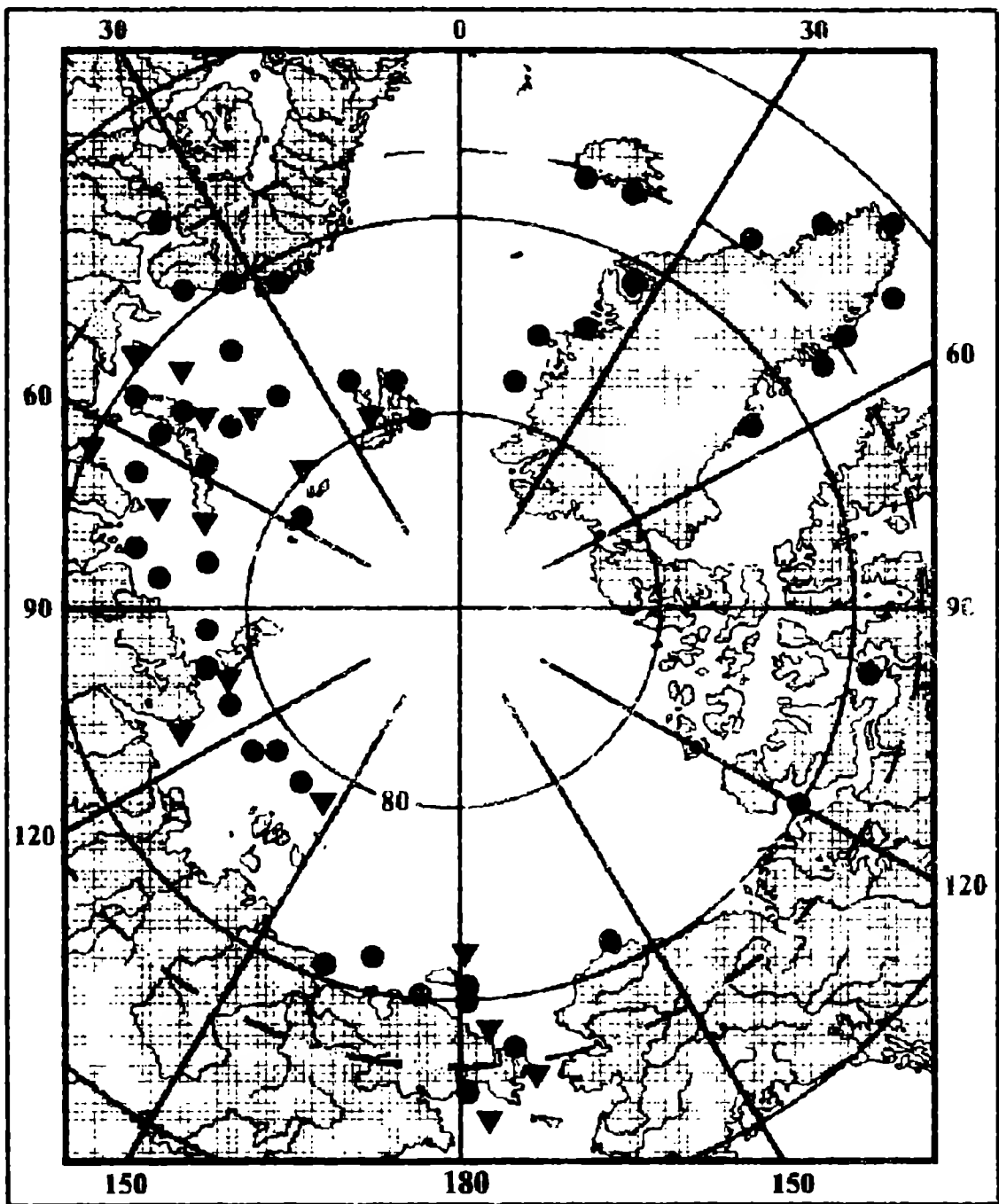


FIG. 71. Distribution of *Solariella obscura* (Couthouy, 1838) (black circles) and *S. varicosa* (Mighels et Adams, 1842) (black triangles)

FIG. 73. Distribution of *Tachyrhynchus reticularius* (Mighels et Adams, 1842) (black circles), *T. erosus* (Couthouy, 1838) (black triangles), *T. spitzbergensis* Golikov, 1986 (black squares) and *Turritellopsis acicala* (Simpson, 1851) (black rhombuses)

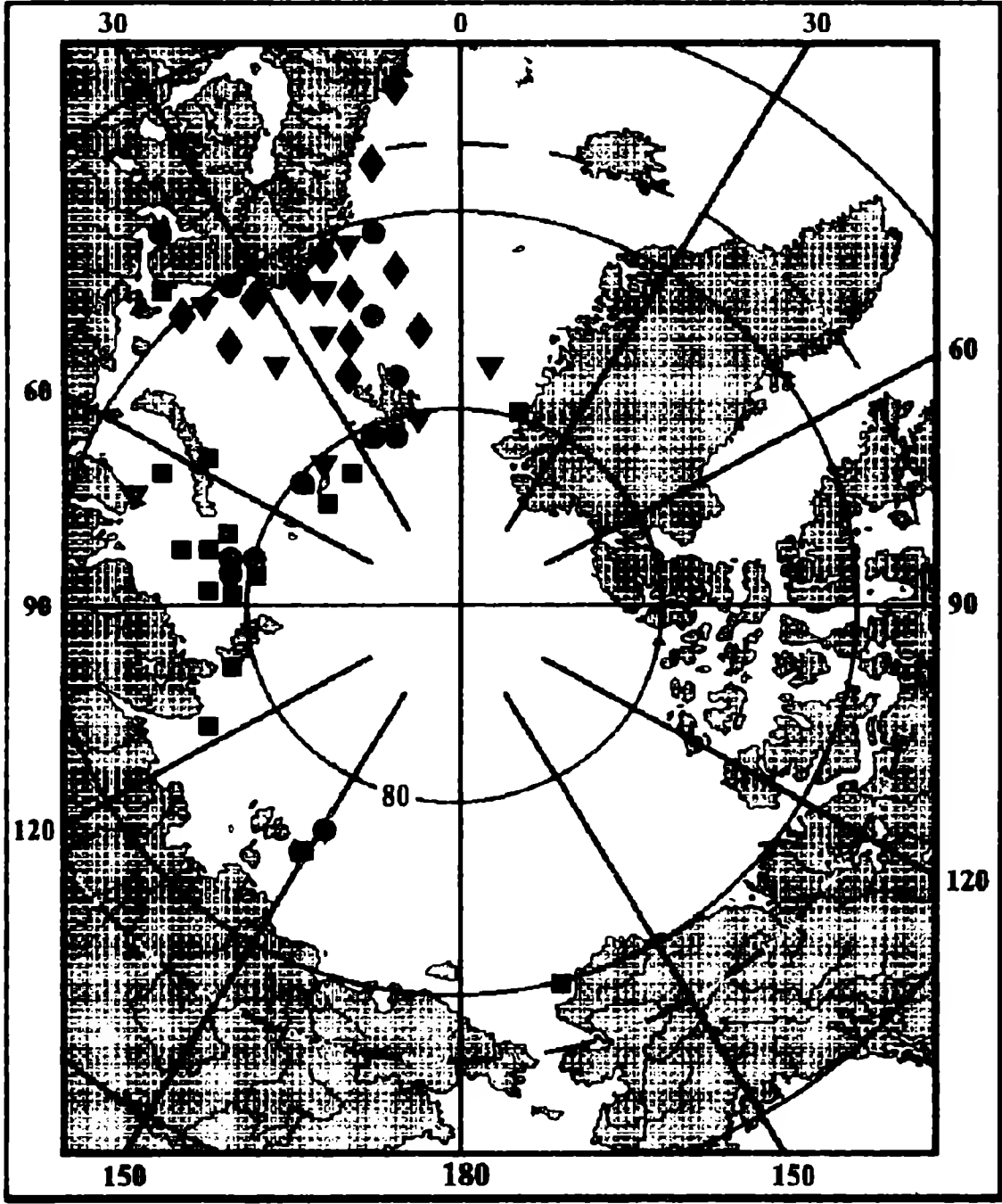


FIG. 74. Distribution of *Laskeya arctica* (Moersch, 1857) (black circles), *Cerithiella metula* (Loven, 1846) (black triangles), *C. whiteavesii* (Verrill, 1880) (black squares) and *Laiocochlis granosa* (Wood, 1848) (black rhombuses).

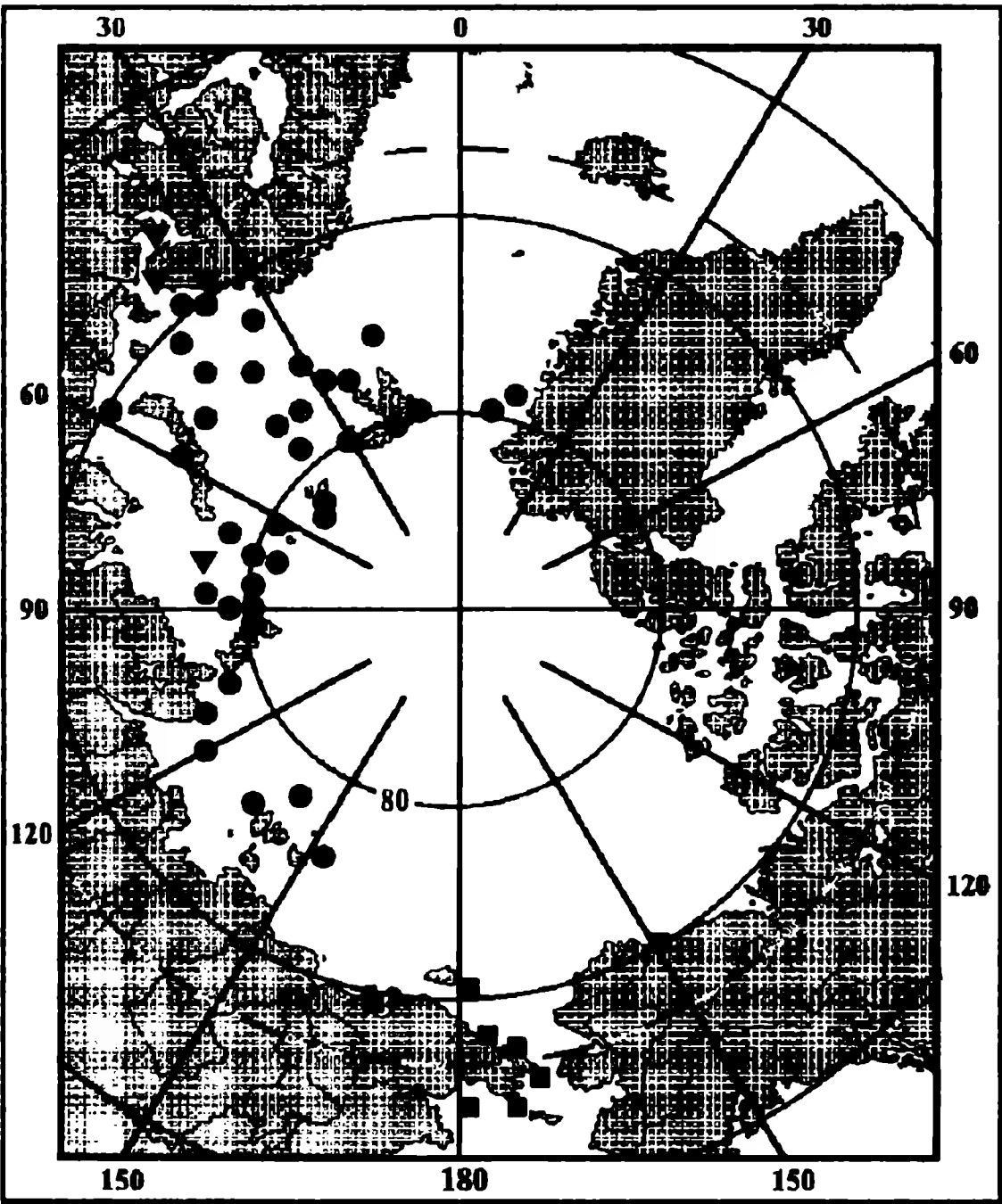


FIG. 76. Distribution of *Punctulum wyvillethomsoni* (Jeffreys in Friele, 1877) (black circles), *P. minutum* Golikov et Fedjakov, 1987 (black triangles) and *Boreocyngula martini* (Dall, 1886) (black squares).

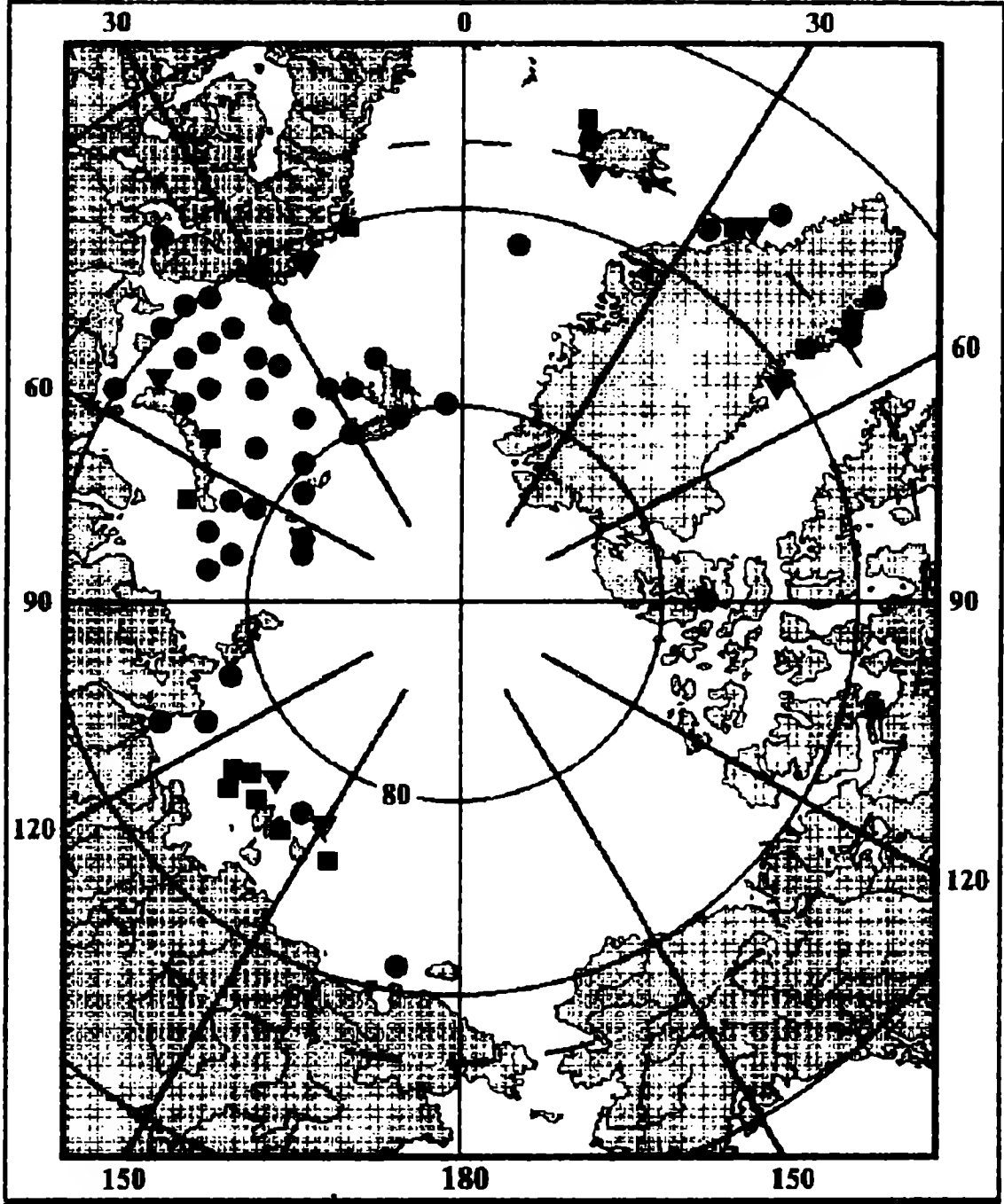


FIG. 75. Distribution of *Frigidoalvania janmayeni* (Friele, 1878) (black circles), *F. scorbiculata* (Moeller, 1842) (black triangles) and *F. cruenta* (Odhner, 1915) (black squares).

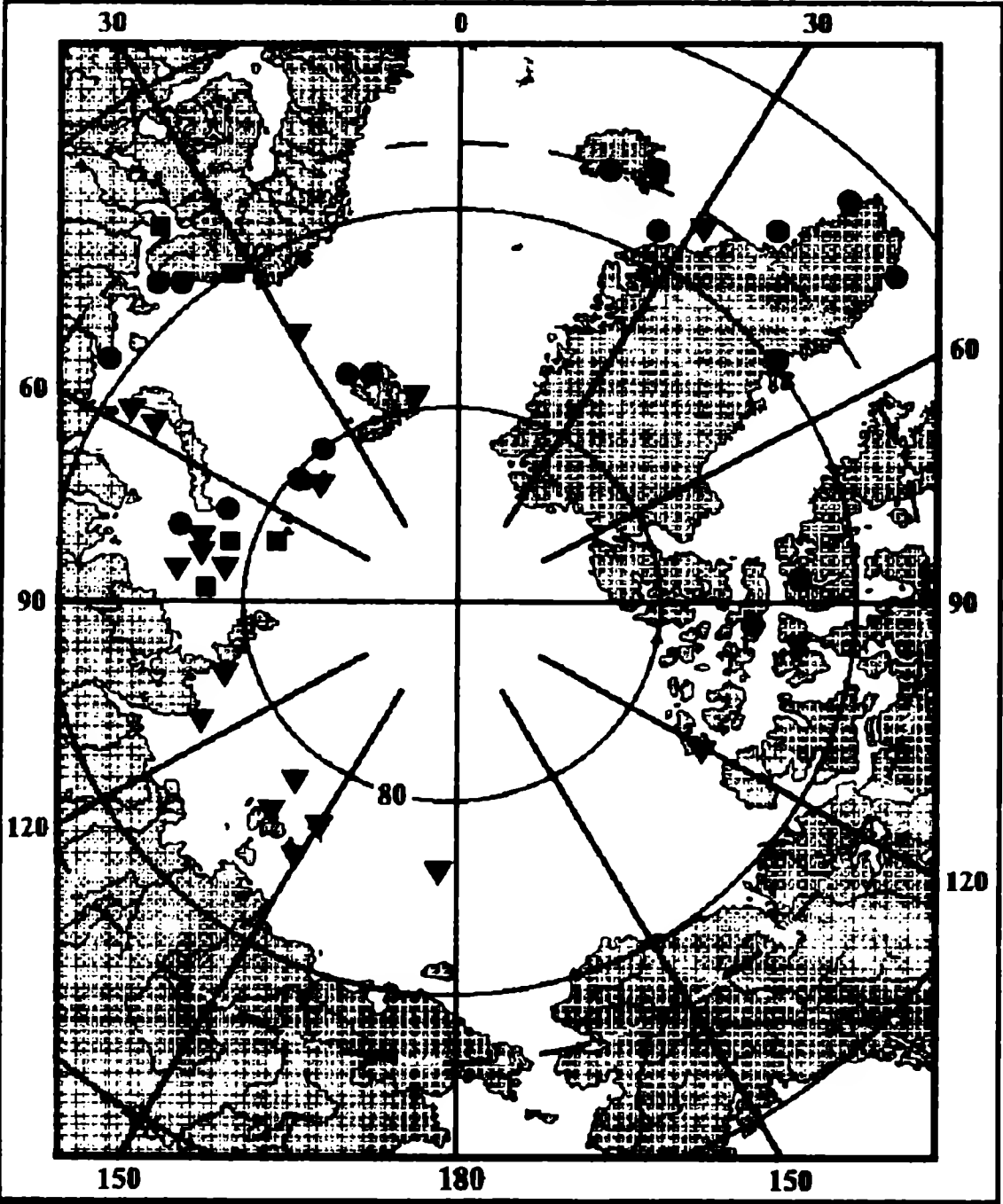


FIG. 77. Distribution of *Onoba castanea* (Moeller, 1842) (black circles), *O. (G.) moerchi* Collin, 1886, (black triangles) and *O. jeffreysi* (Waller, 1864) (black squares).

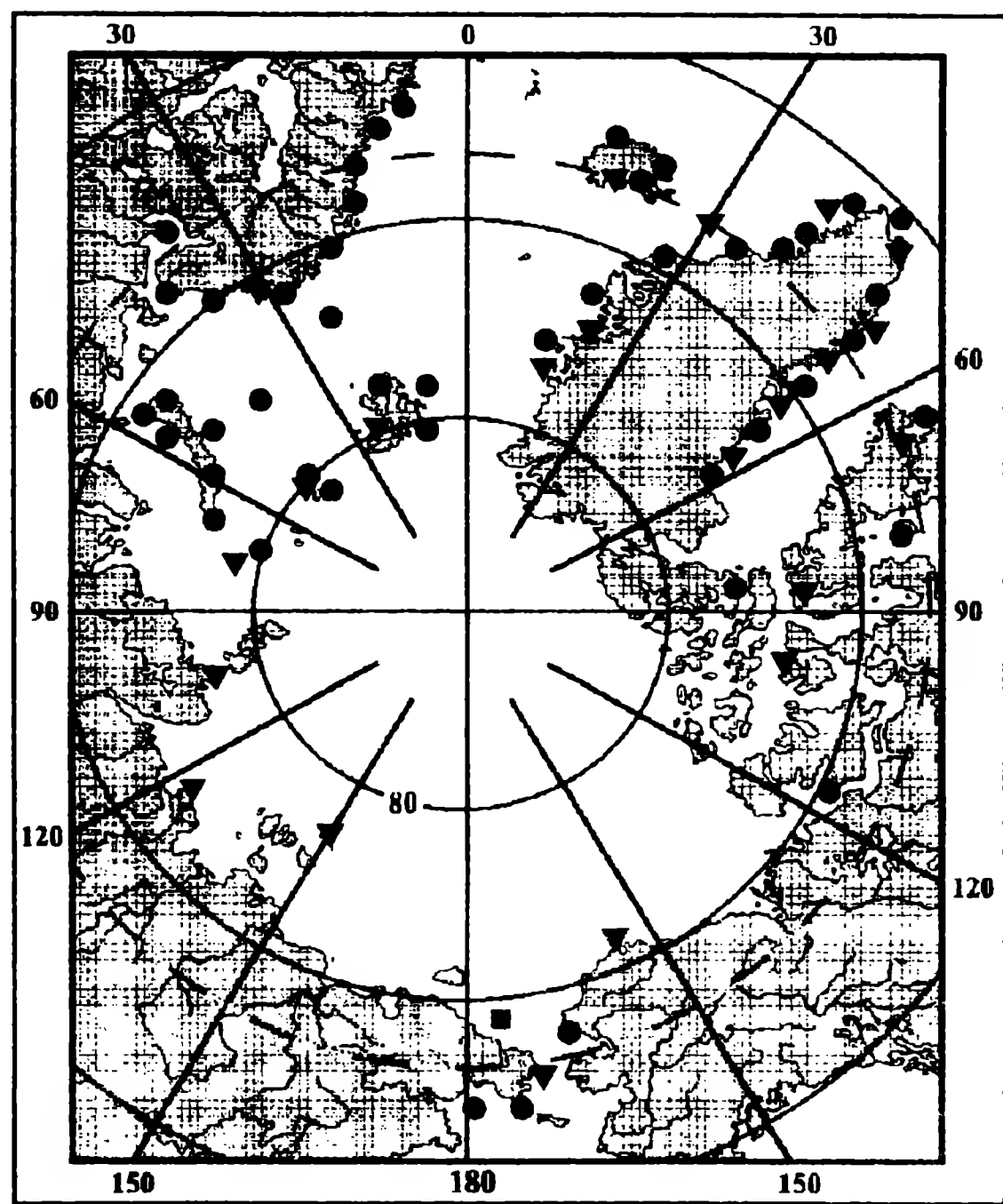


FIG. 70. Distribution of *Margarites helicinus* (Phipps, 1774) (black circles), *M. vahlii* (Moeller, 1842) (black triangles) and *M. (C.) frigida* Dall, 1919 (black squares)

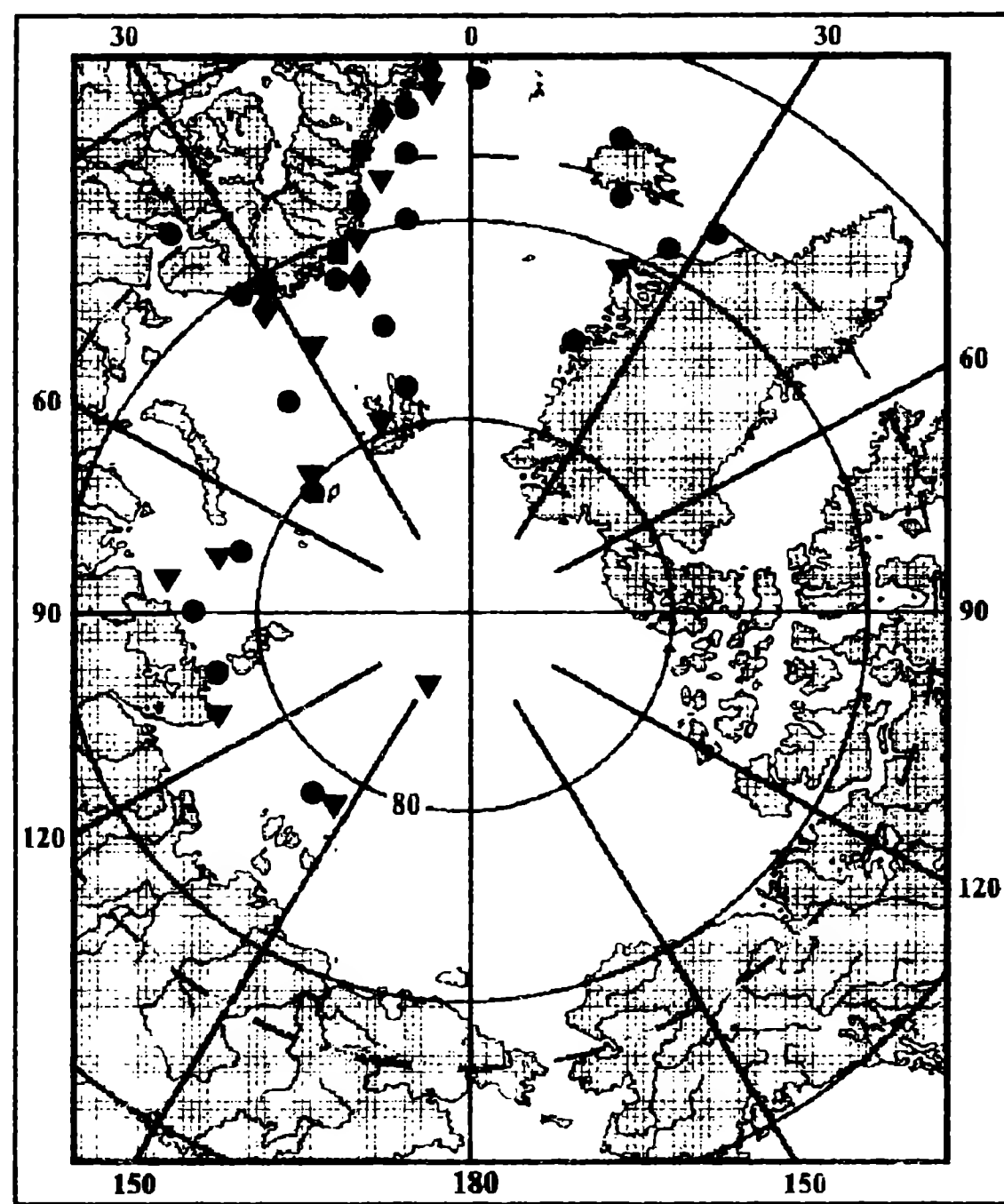


FIG. 72. Distribution of *Ganesa laevigata* (Friele, 1876) (black circles), *G. basistriata* (Jeffreys, 1877) (black triangles), *Gibbula tumida* (Montagu, 1803) (black squares) and *Calliostoma occidentale* (Migh. at Adams, 1842) (black rhombuses).

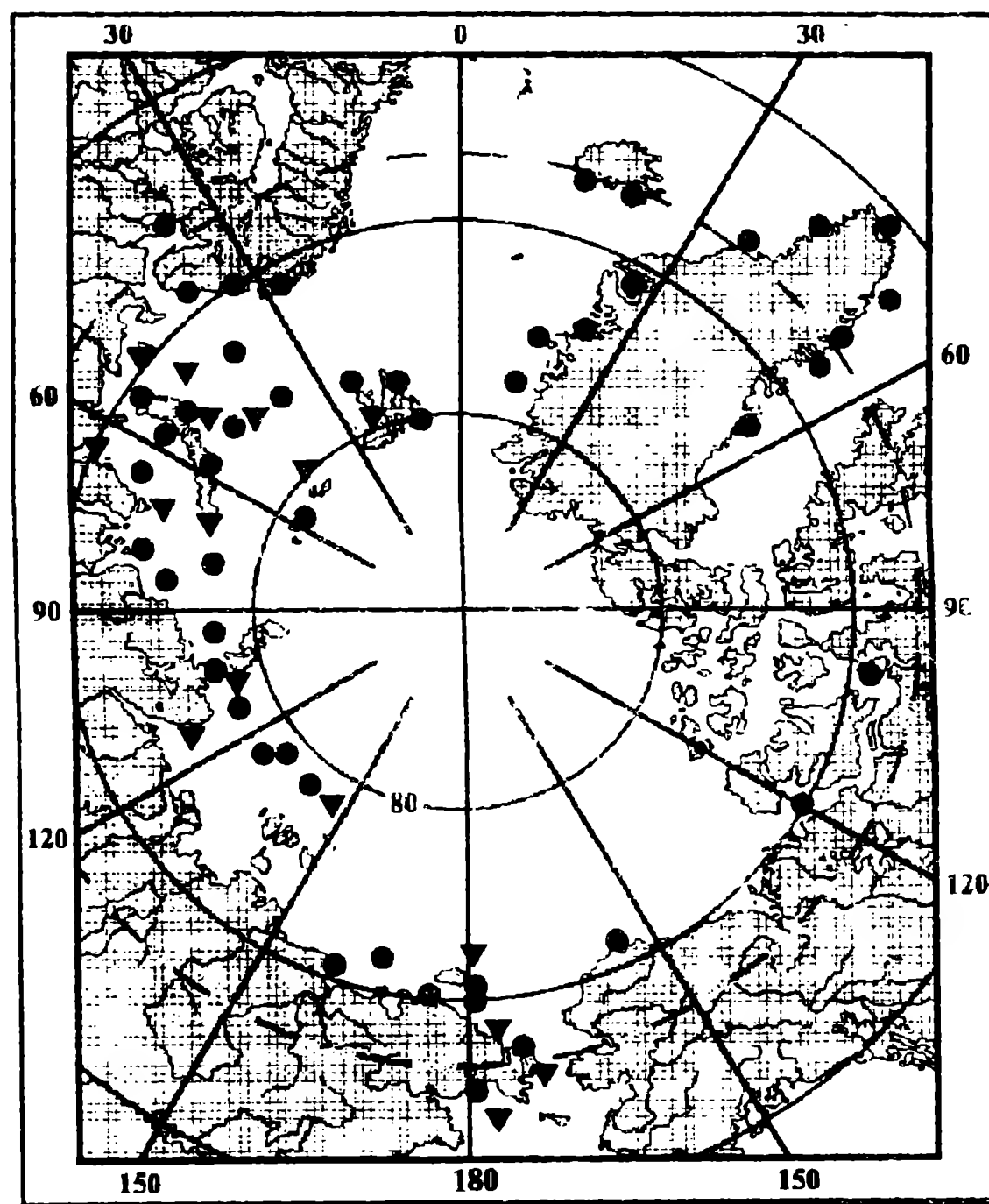


FIG. 71. Distribution of *Solariella obscura* (Couthouy, 1838) (black circles) and *S. varicosa* (Mighels et Adams, 1842) (black triangles).

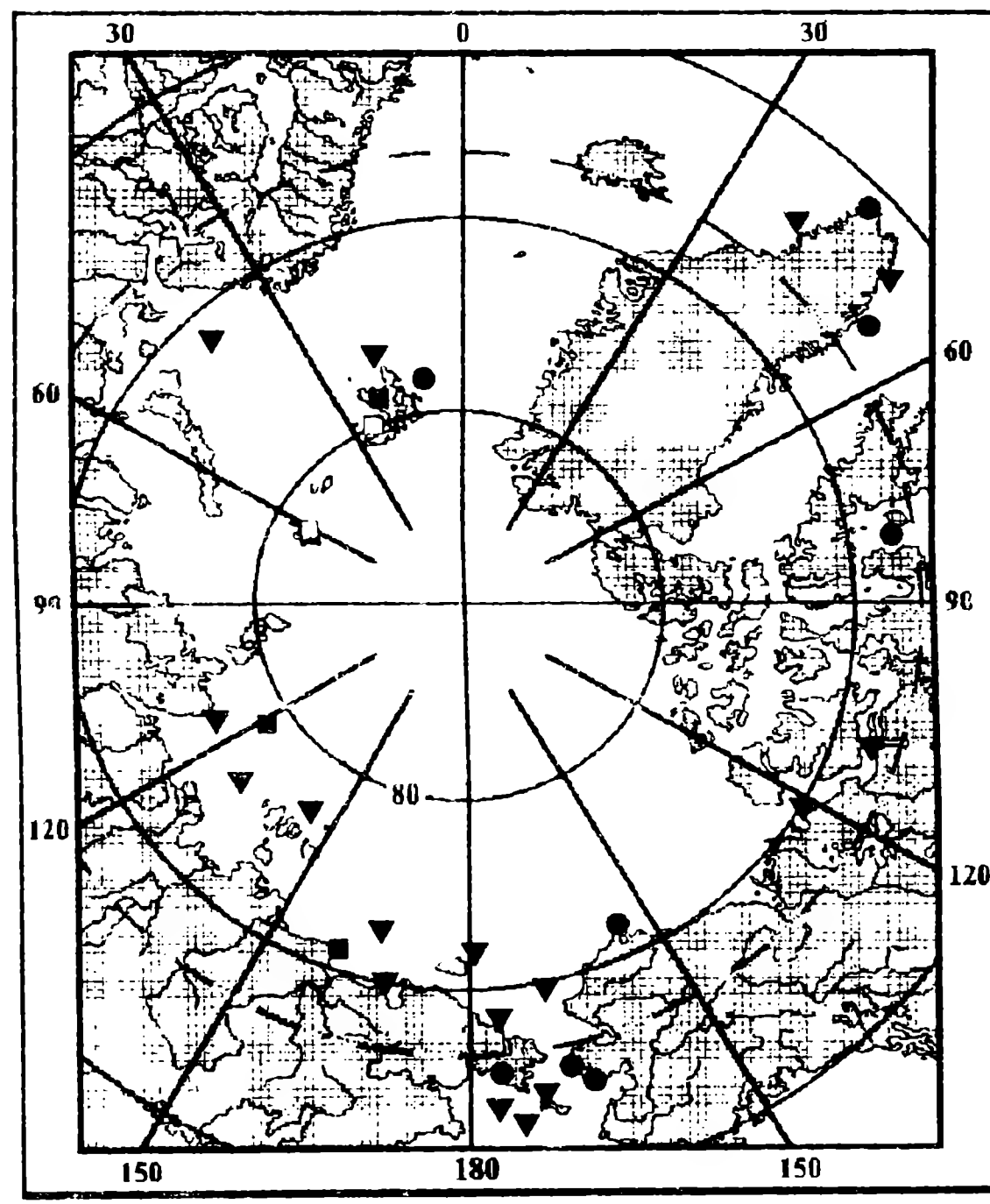


FIG. 73. Distribution of *Tachyrhynchus reticularius* (Mighels et Adams, 1842) (black circles), *T. erosus* (Couthouy, 1838) (black triangles), *T. spitzbergensis* Golikov, 1986 (black squares) and *Turritellopsis acicala* (Simpson, 1851) (black rhombuses).

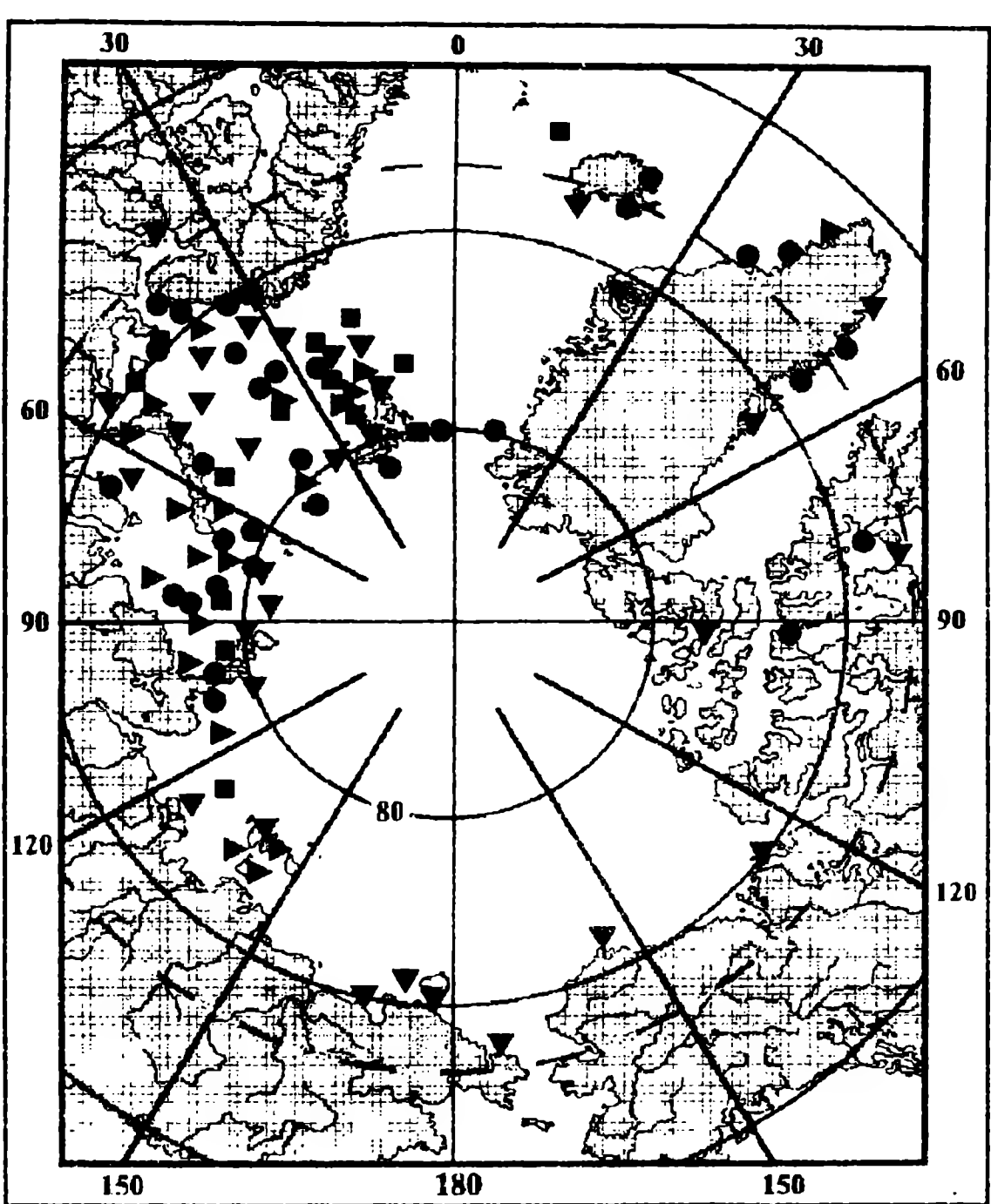
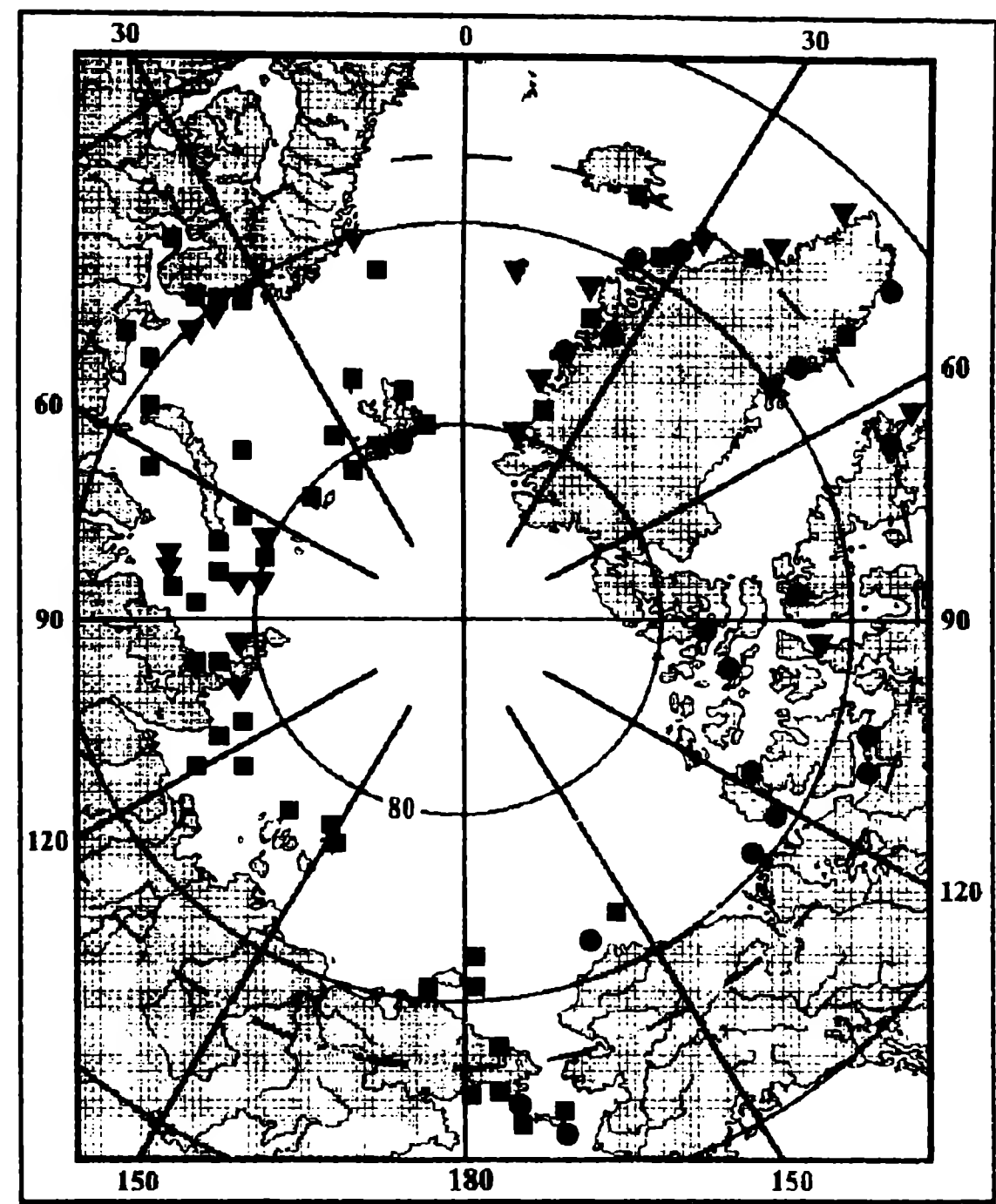


FIG. 78. Distribution of *Trichotropis bicarinata* (Sowerby, 1825) (black circles), *Ariadnaria conica* (Moeller, 1842) (black triangles) and *A. borealis* (Broderip et Sowerby, 1829) (black squares)

FIG. 80. Distribution of *Capulacmaea radiata* (M Sars, 1851) (black circles), *Limneria undata* (Brown, 1838) (black triangles) and *L. insculpta* (Odhner, 1913) (black squares)

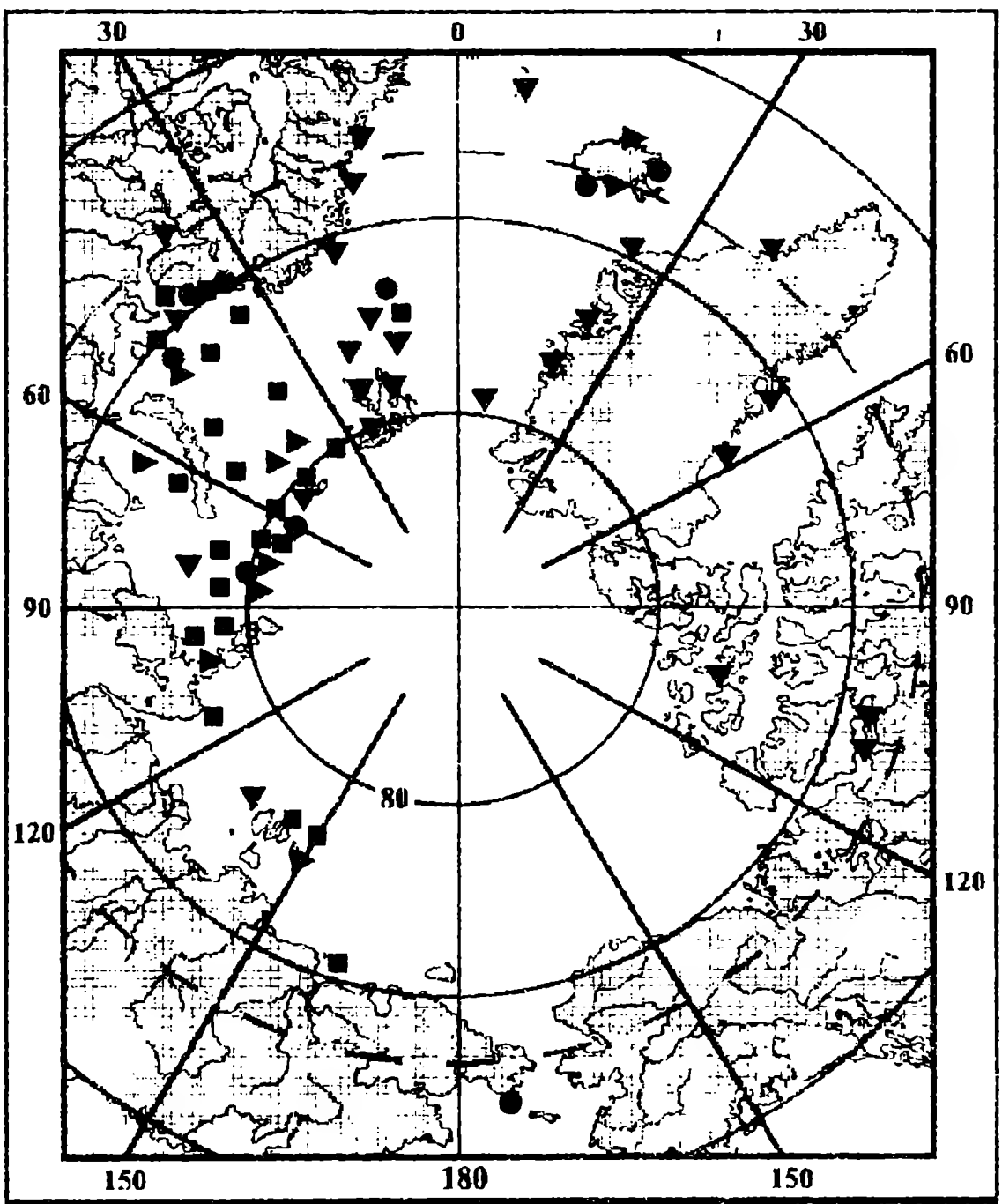
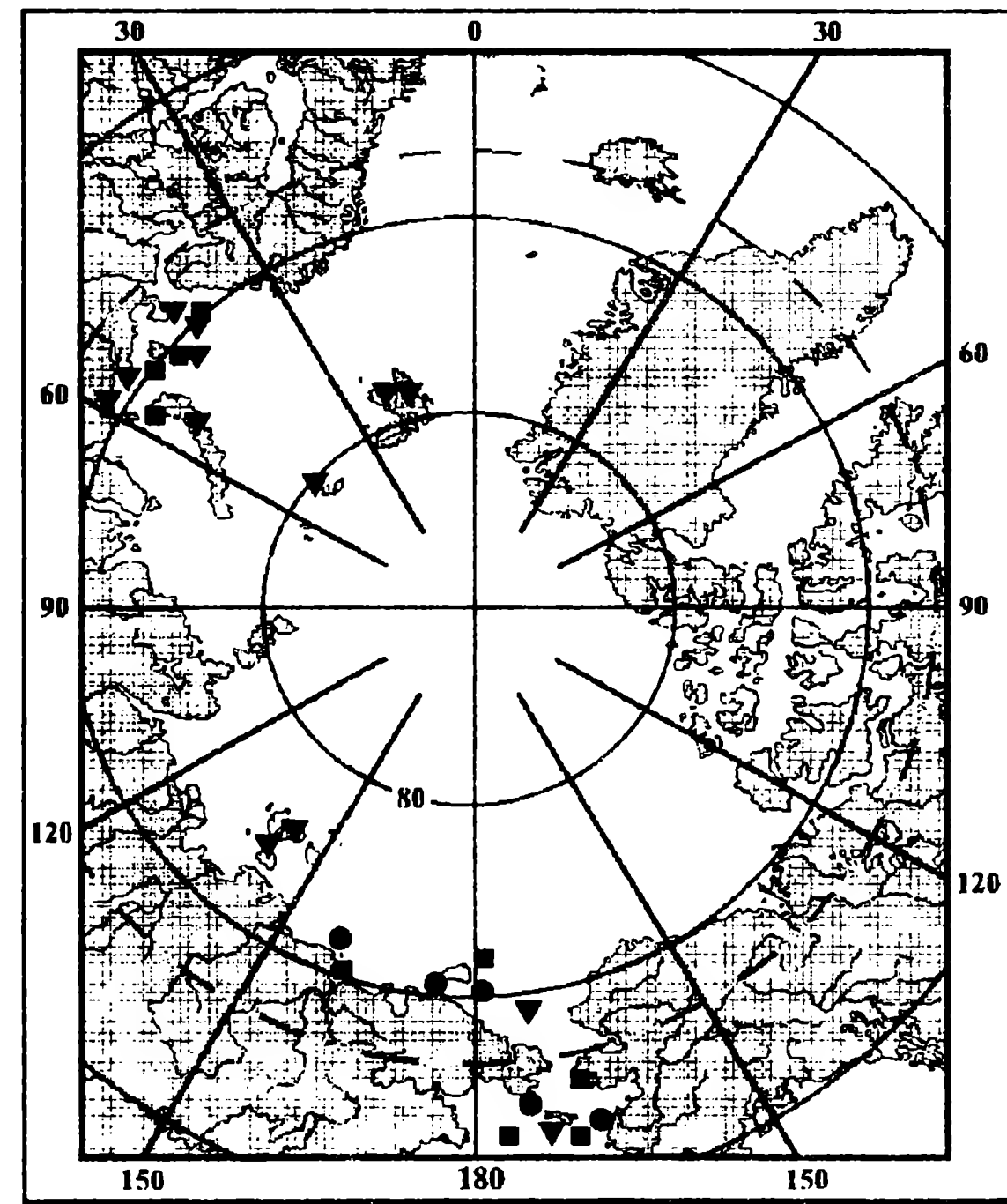


FIG. 79. Distribution of *Iphinoe coronata* (Gould, 1860) (black circles), *I. kroyeri* (Philippi, 1849) (black triangles) and *I. solida* (Aurivillius, 1885) (black squares)

FIG. 81. Distribution of *Ciliatovelutina lanigera* (Moeller, 1842) (black circles), *Velutina velutina* (Mueller, 1776) (black triangles) and *V. schneideri* Fricke, 1886 (black squares)

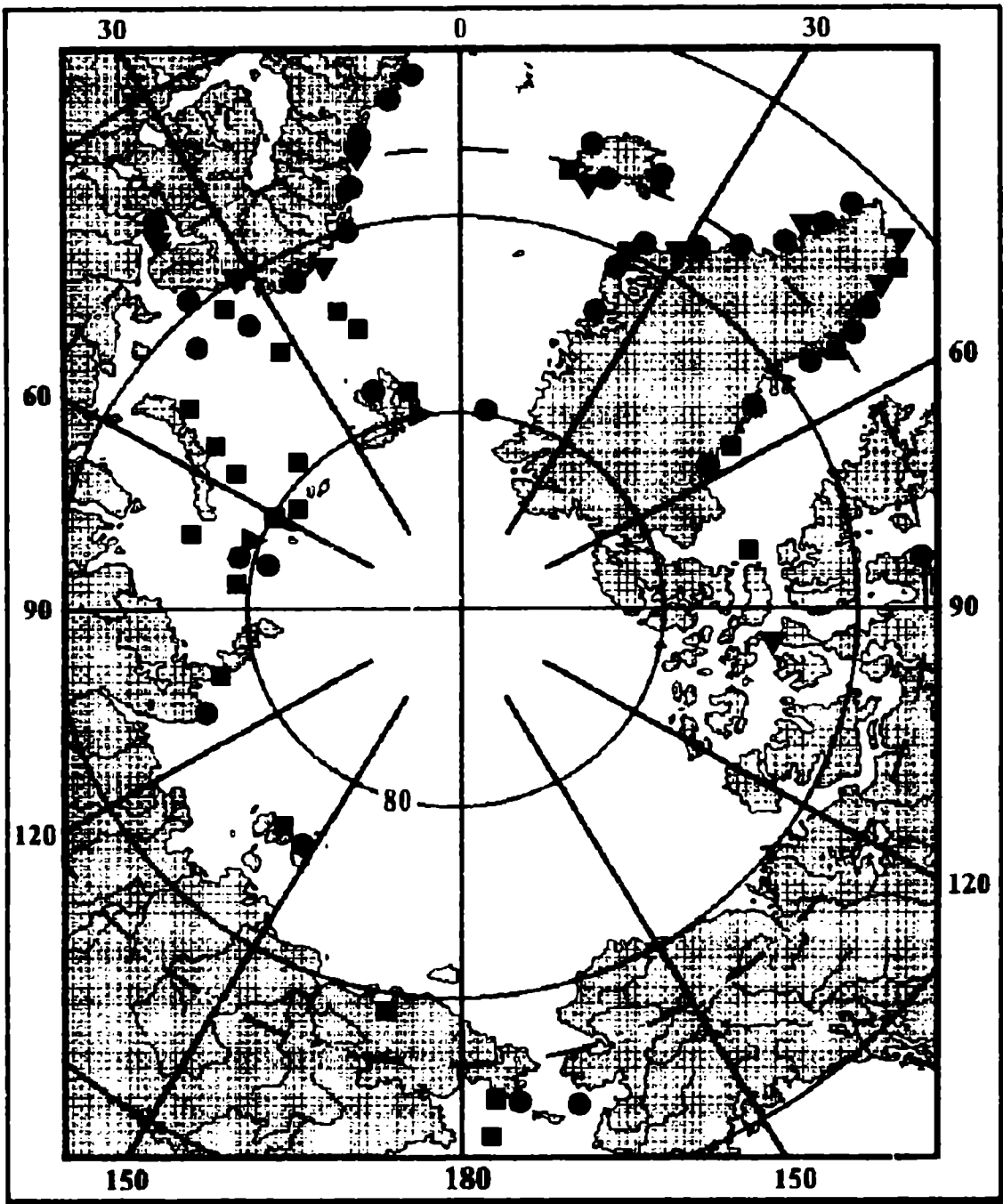


FIG. 82. Distribution of *Velutella plicatilis* (Mueller, 1776) (black circles), *Marsenina glabra* (Couthouy, 1838) (black triangles) and *Onchidiopsis* (*O.*) *groenlandica* (Bern, 1853) (black squares).

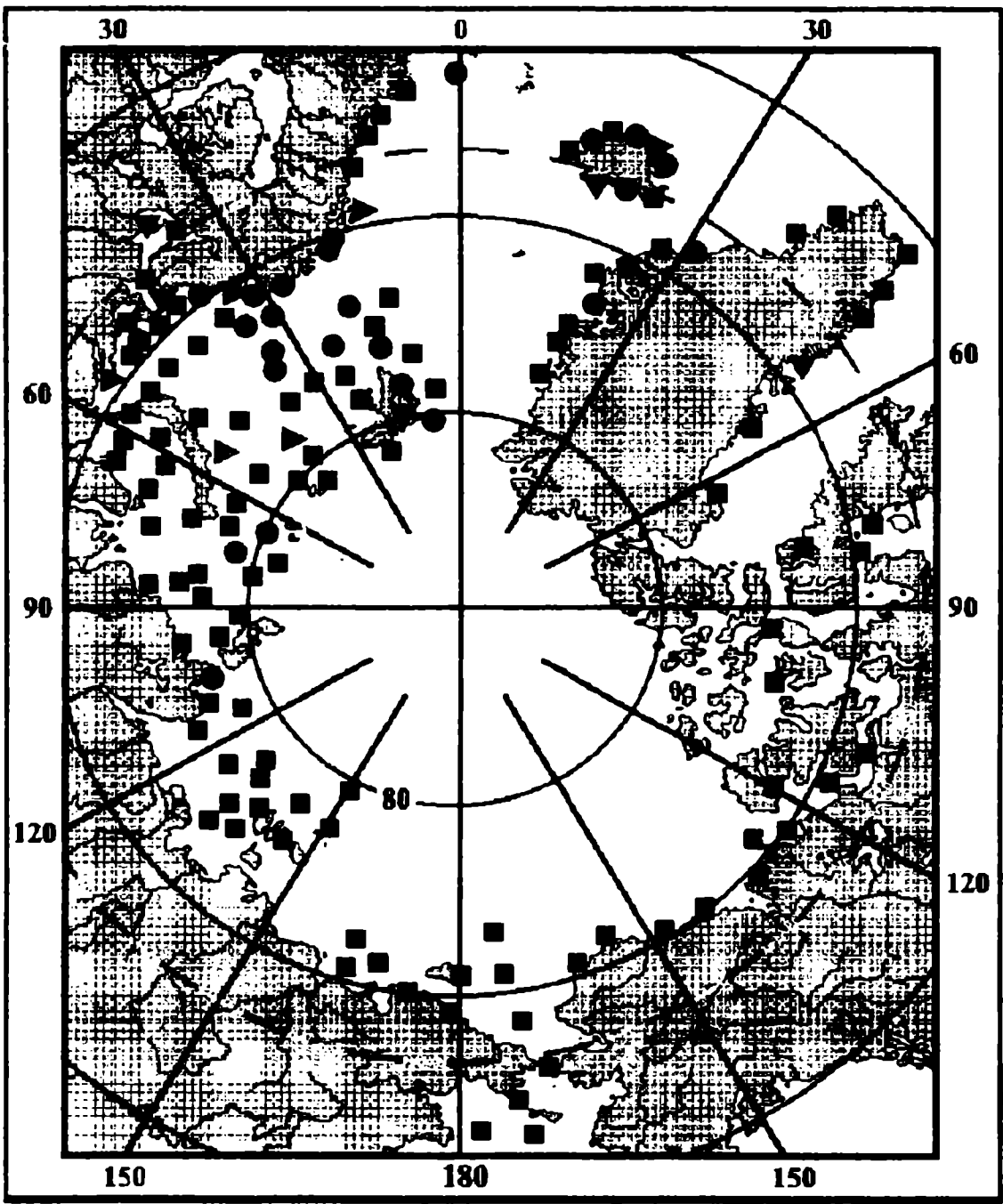


FIG. 84. Distribution of *Bulbus smithi* Brown, 1839 (black circles), *Pseudopolinices nanus* (Moeller, 1841) (black triangles) and *Lunatia pallida* (Broderip et Sowerby, 1829) (black squares).

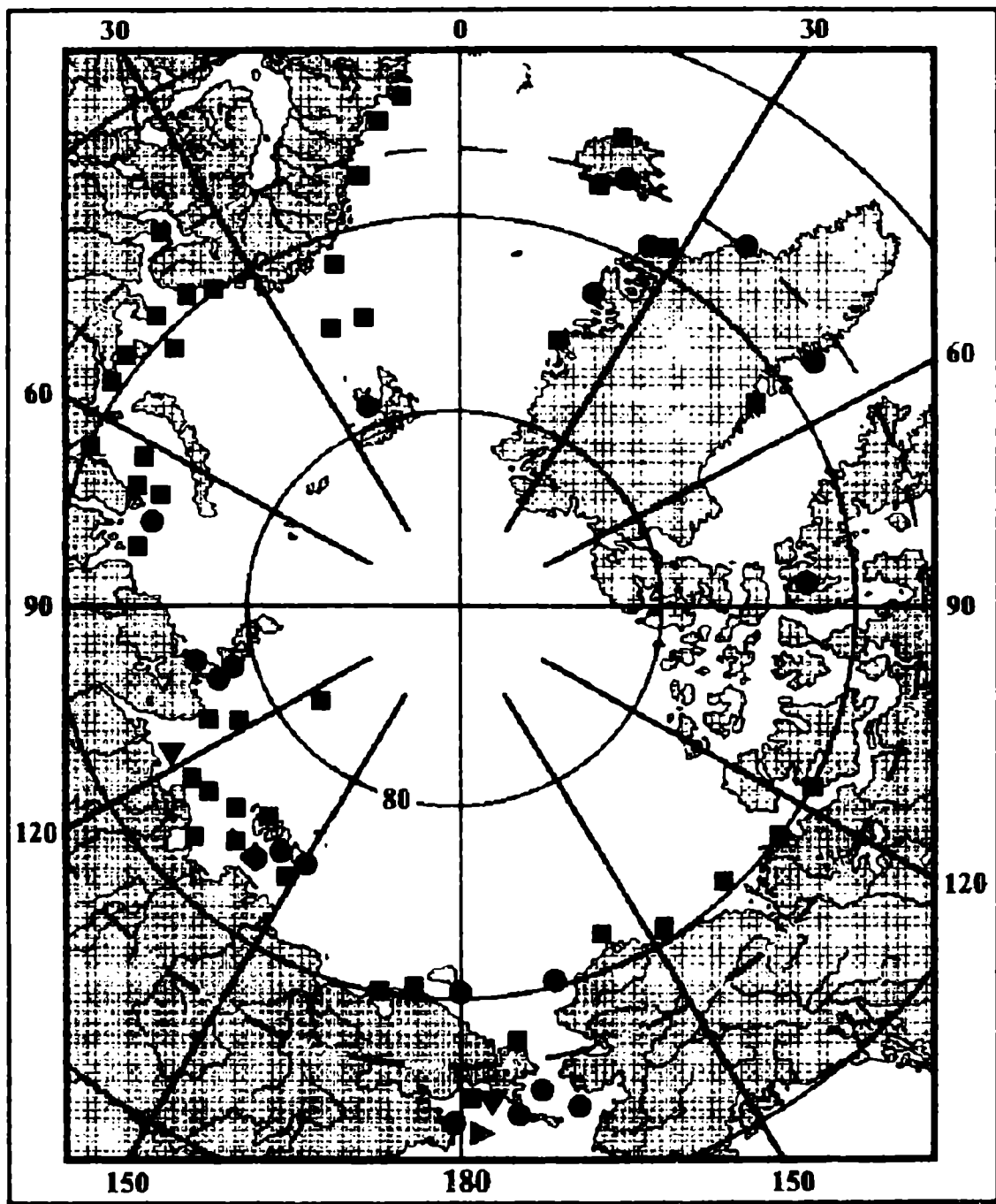


FIG. 83. Distribution of *Onchidiopsis* (*Rostroonchidiopsis*) *glacialis* (M.Sars, 1851) (black circles), *O.* (*R.*) *platissima* Odhner, 1913 (black triangles) and *Amauropsis islandica* (Mueller, 1776) (black squares).

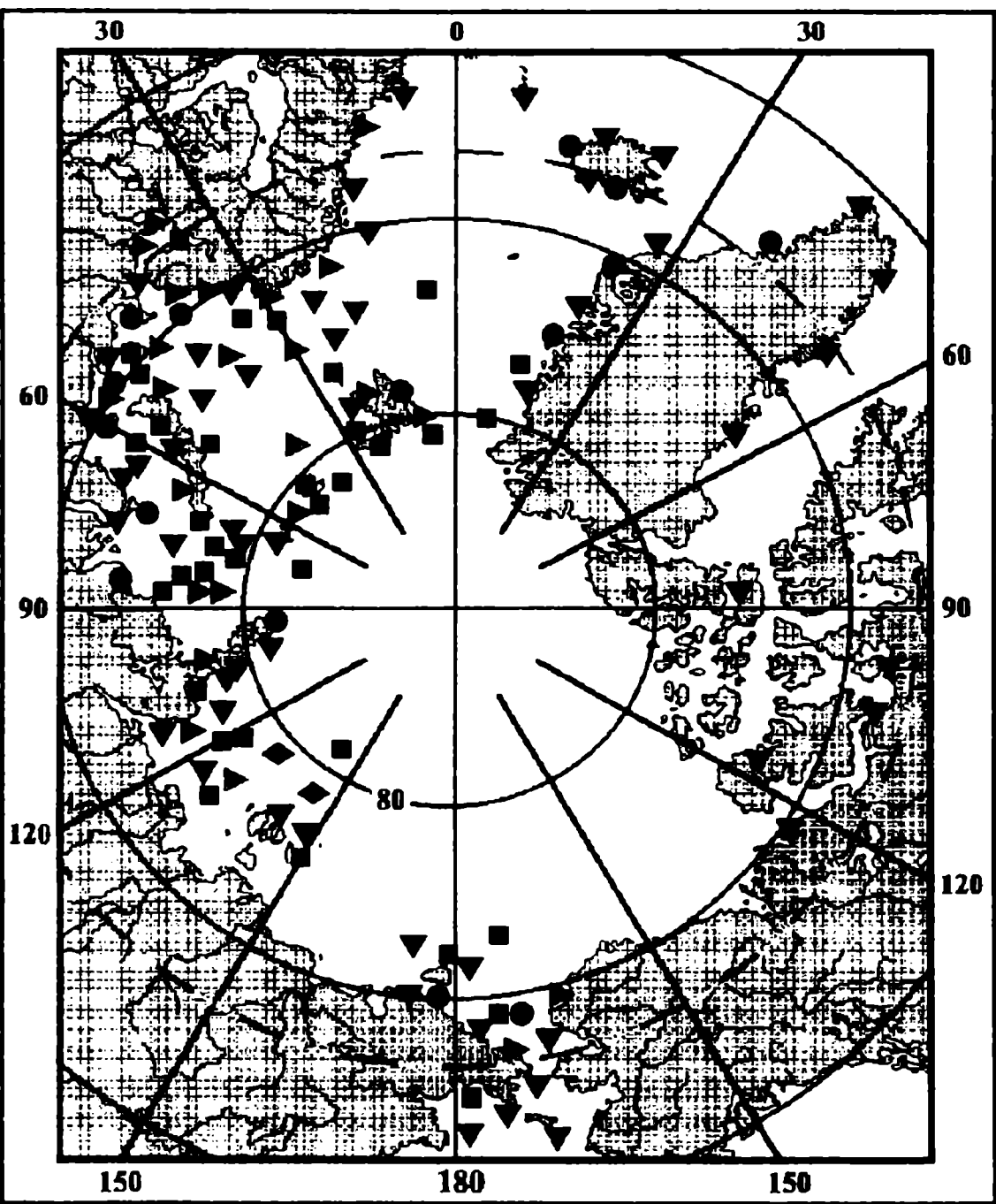


FIG. 85. Distribution of *Lunatia tenuistriata* (Dautzenberg et Fischer, 1911) (black circles), *Cryptonatica clausa* (Broderip et Sowerby, 1829) (black triangles), *C. septentrionalis* (Mueller, 1842) (black squares) and *C. bathybia* (Friele, 1879) (black rhombuses).

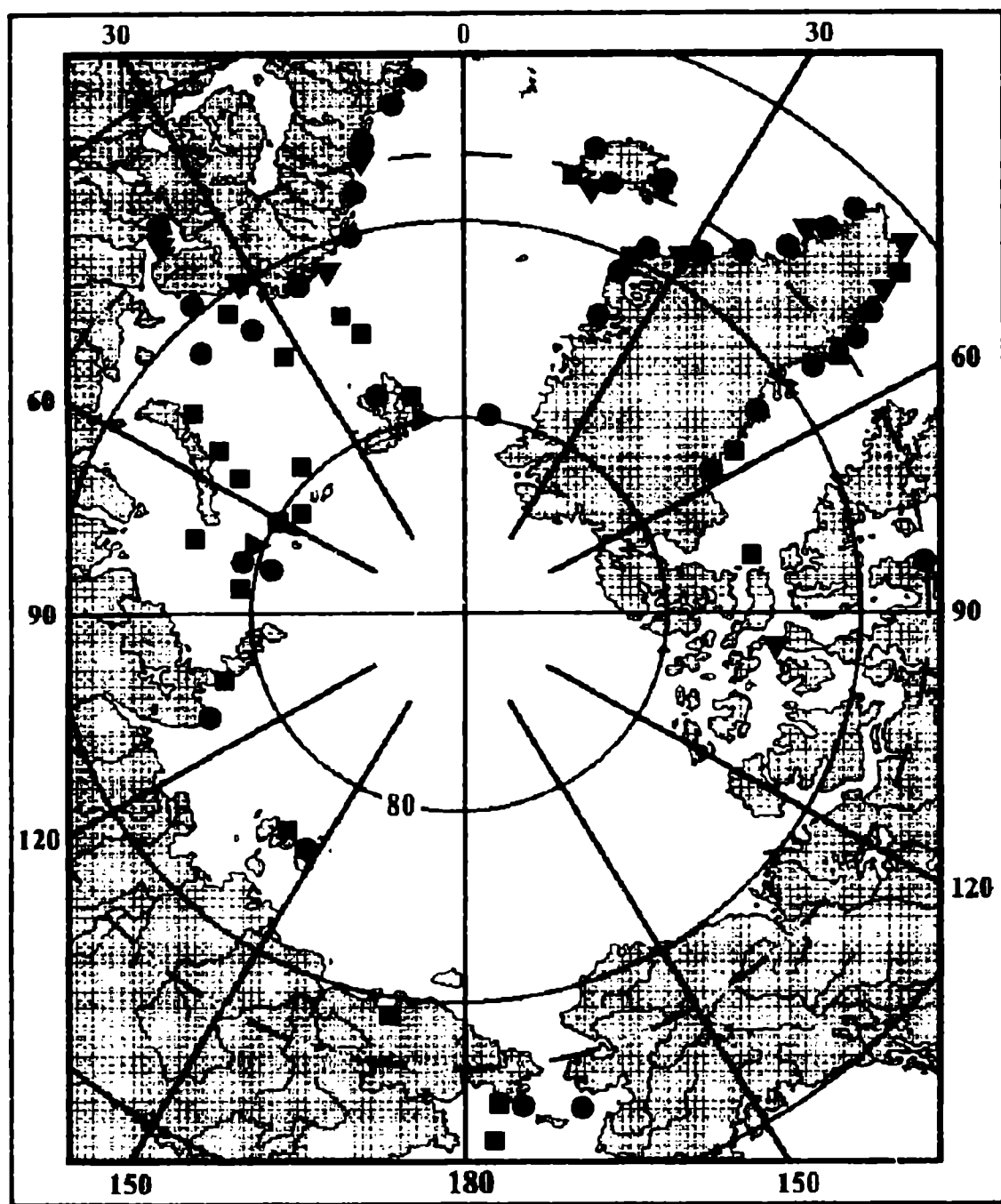


FIG. 82. Distribution of *Velutella plicatilis* (Mueller, 1776) (black circles), *Marsenina glabra* (Couthouy, 1838) (black triangles) and *Onchidiopsis* (*O.*) *groenlandica* (Bern, 1853) (black squares).

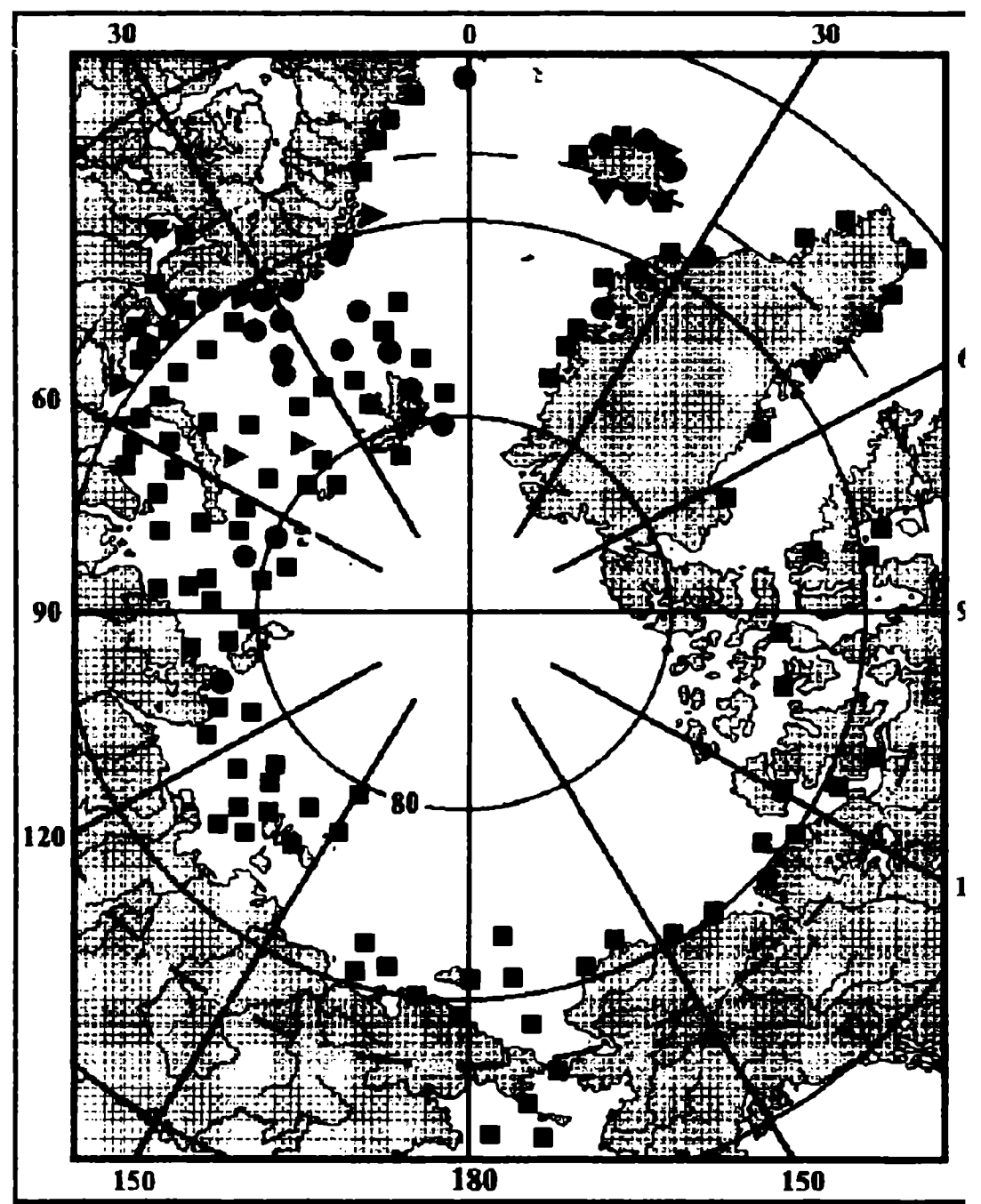


FIG. 84. Distribution of *Bulbus smithi* Brown, 1839 (black circles), *Pseudopolinices nanus* (Moeller, 1841) (black triangles) *Lunatia pallida* (Broderip et Sowerby, 1829) (black square).

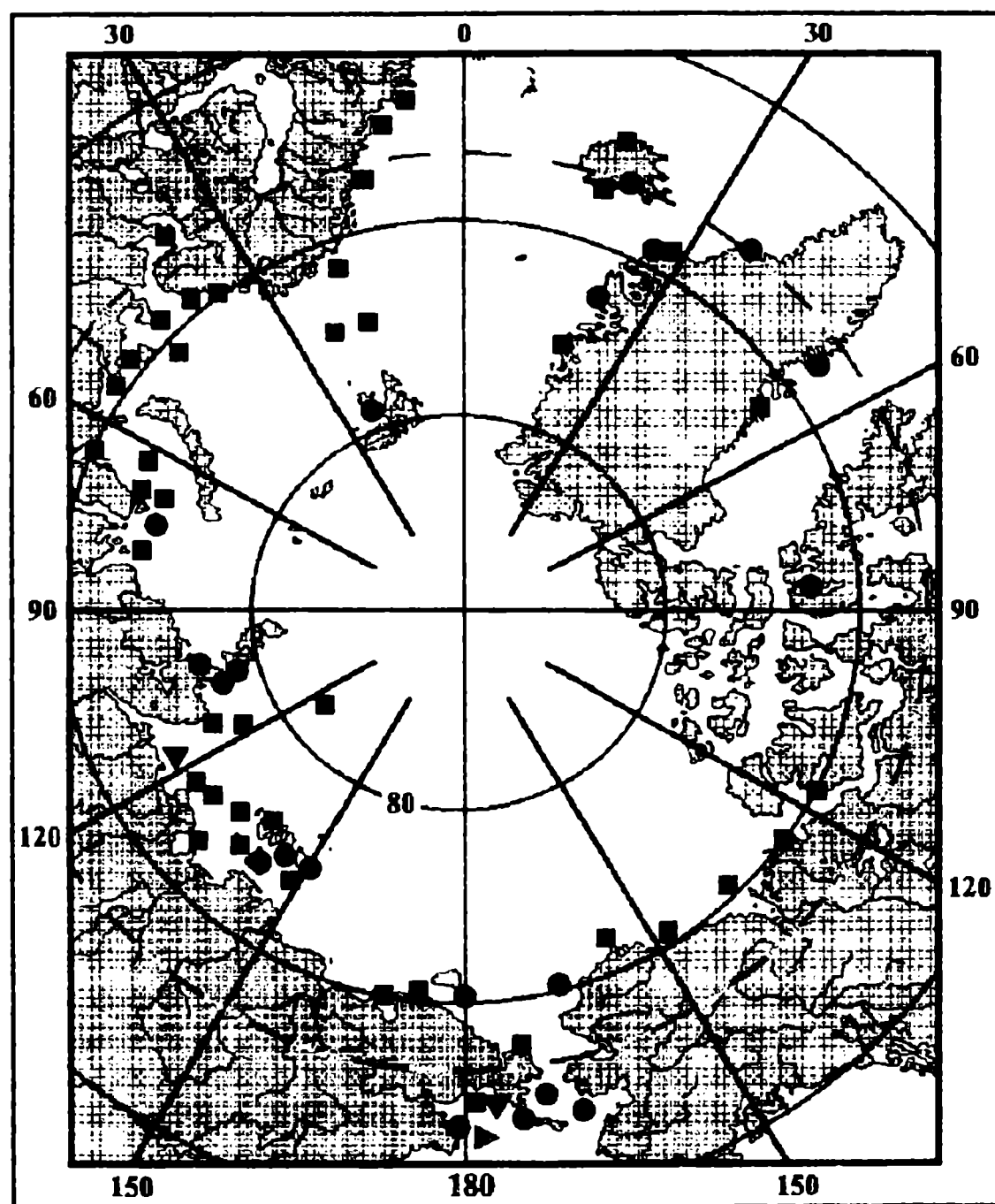


FIG. 83. Distribution of *Onchidiopsis* (*Rostroonchidiopsis*) *glacialis* (M.Sars, 1851) (black circles), *O.* (*R.*) *platissima* Odhner, 1913 (black triangles) and *Amauropsis islandica* (Mueller, 1776) (black squares).

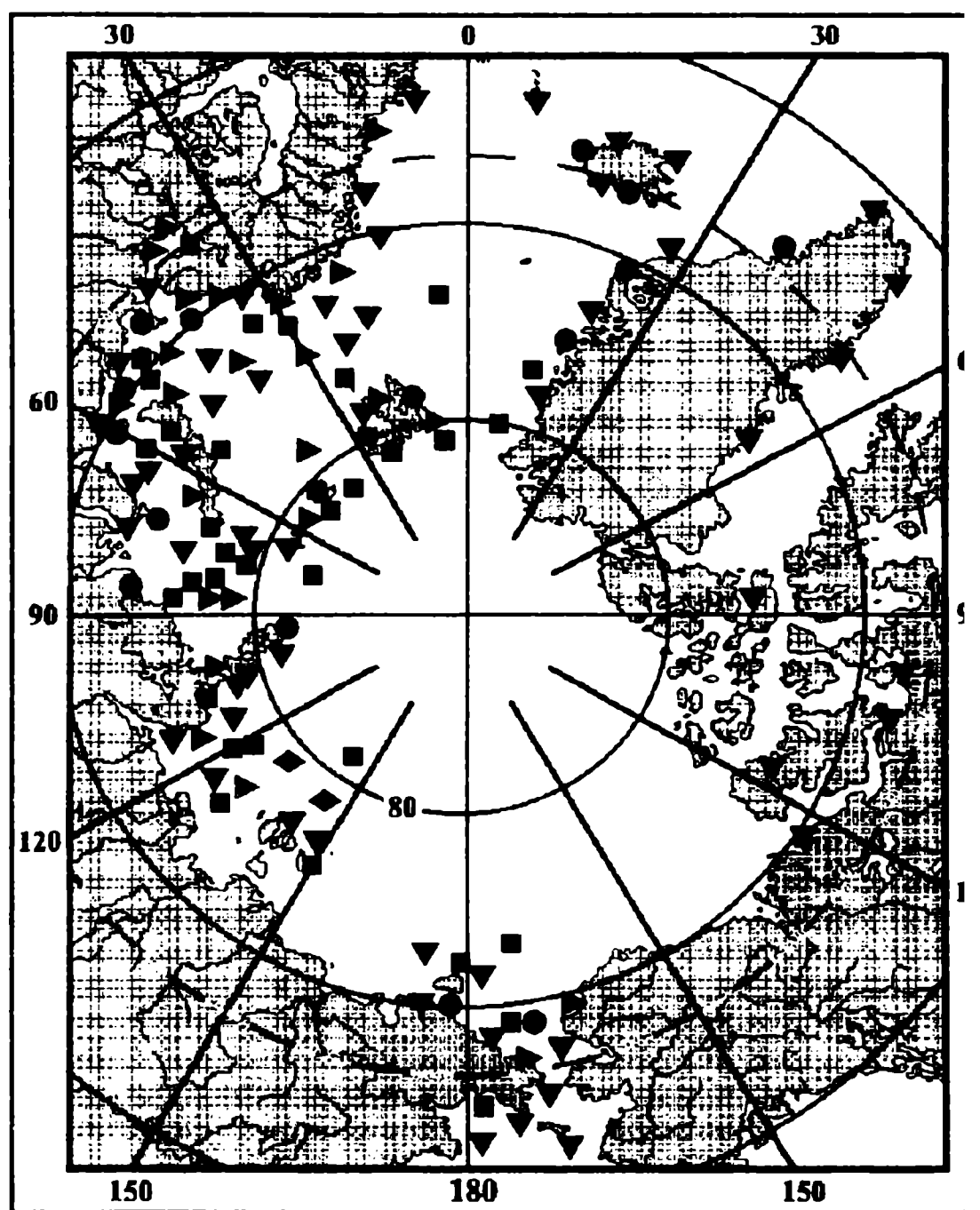


FIG. 85. Distribution of *Lunatia tenuistriata* (Dautzenberg, 1911) (black circles), *Cryptonatica clausa* (Broderip et Sowerby, 1829) (black triangles), *C. septentrionalis* (Mueller, 1842) (black squares) and *C. bathybia* (Friele, 1879) (black rhombuses).

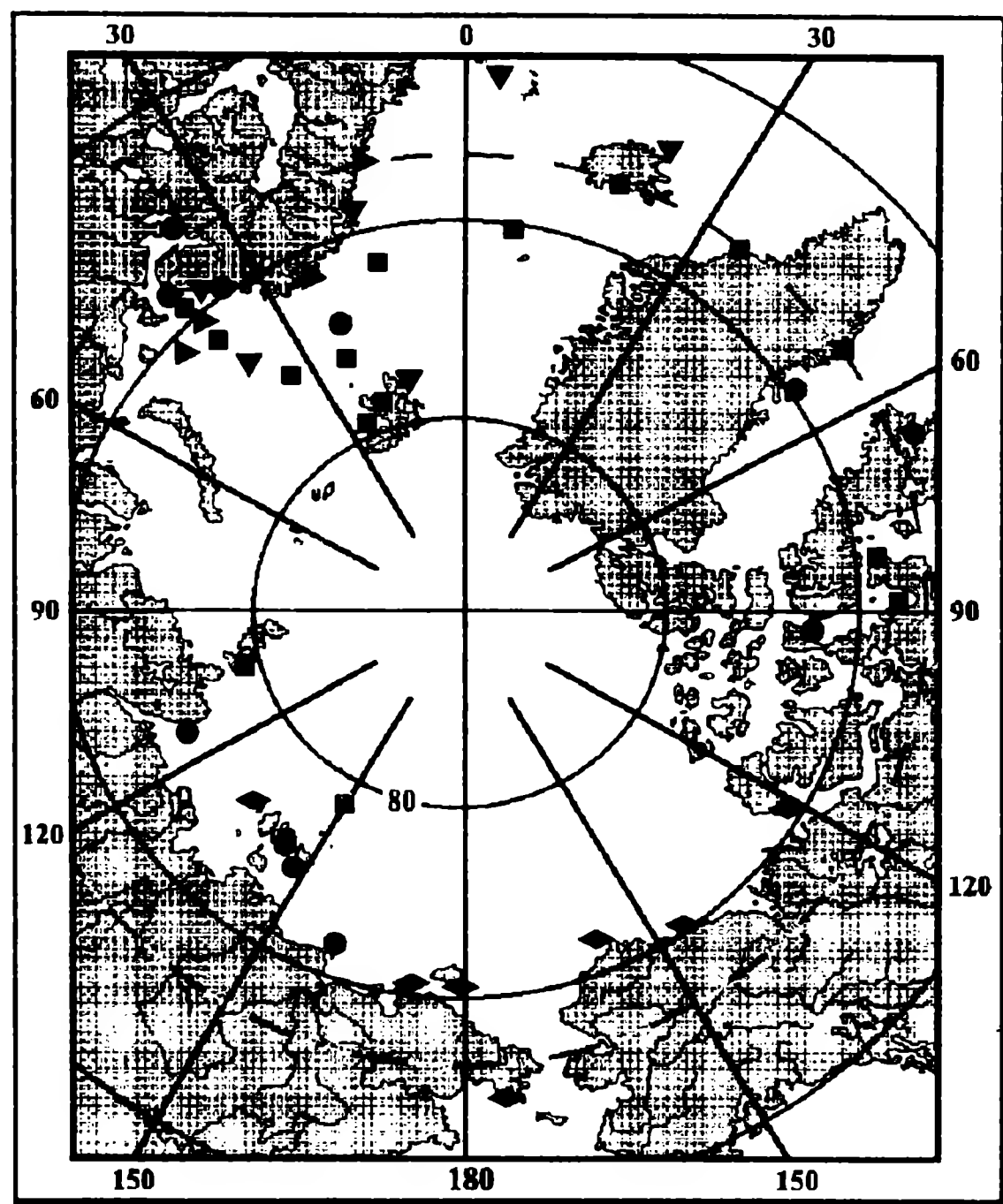


FIG. 86. Distribution of *Astyris rosacea* (Gould, 1840) (black circles), *Beringius turtoni* (Bean, 1834) (black triangles), *B. ossiani* (Friele, 1879) (black squares) and *Beringion beringii* (Middendorff, 1849) (black rhombuses).

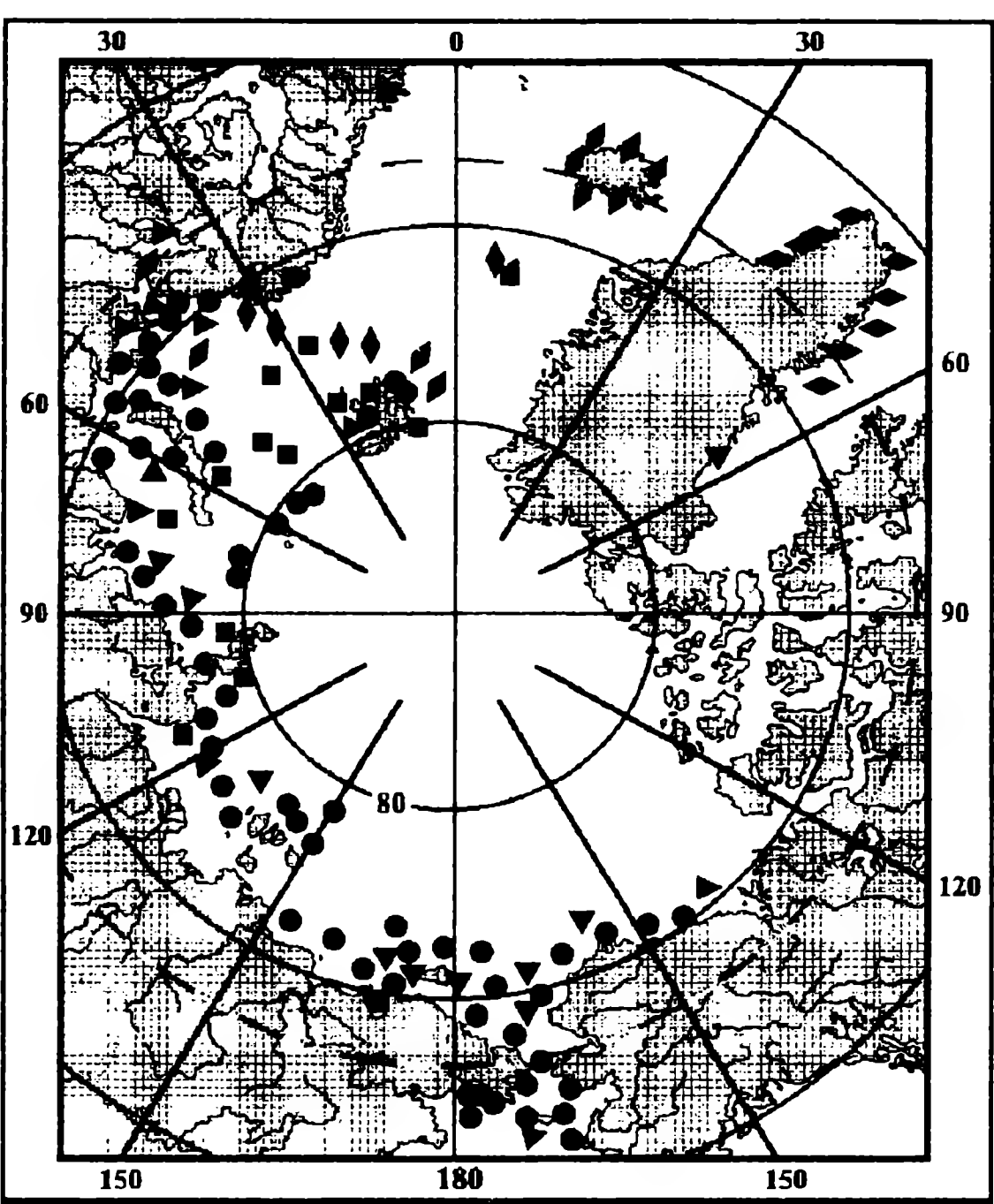


FIG. 88. Distribution of *Neptunea ventricosa* (Gmelin, 1789) (black circles), *N. communis communis* (Middendorff, 1849) (black triangles), *N. denselirata* Brogger, 1901 (black squares) and *N. despecta* (L., 1758) (black rhombuses).

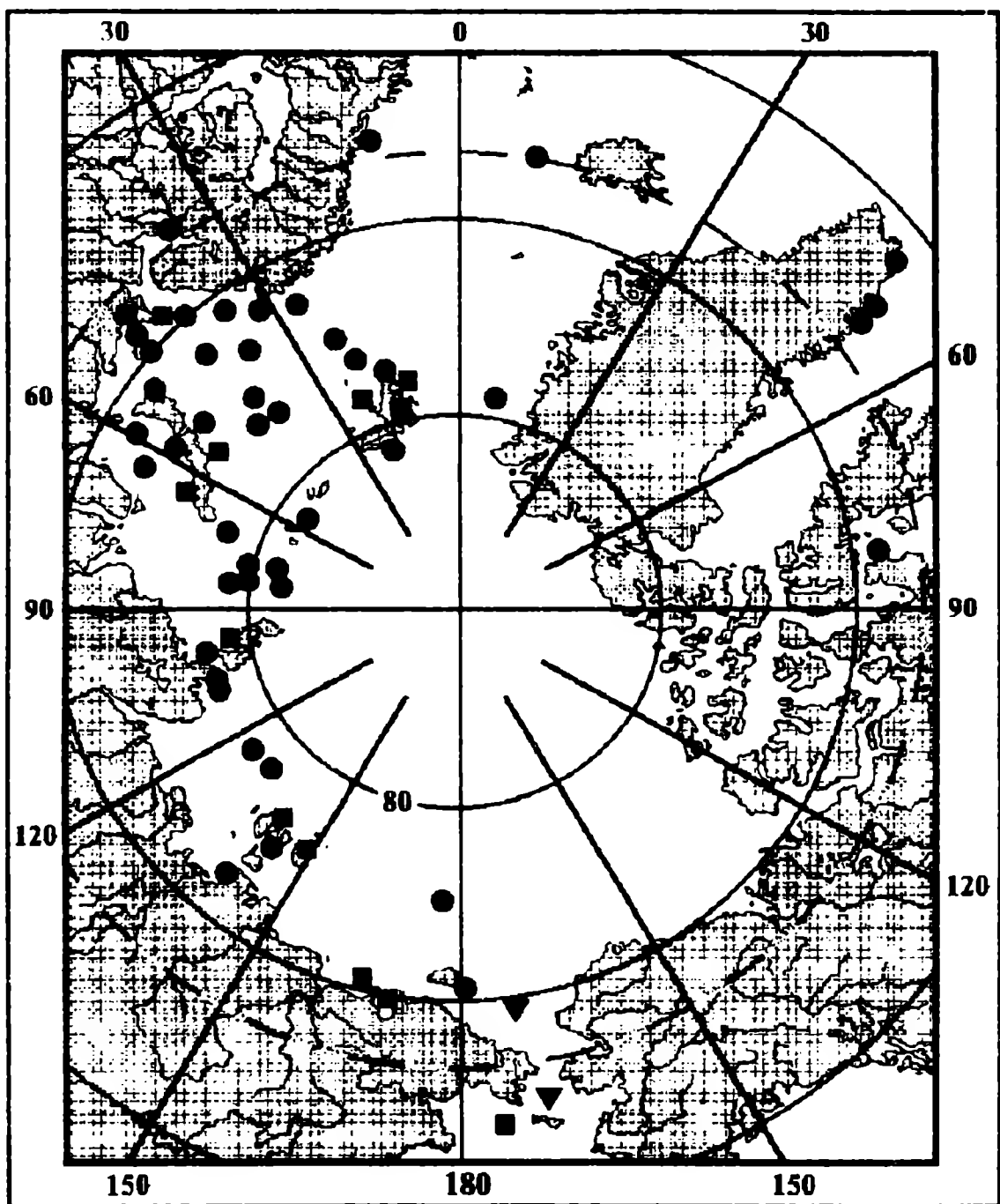


FIG. 87. Distribution of *Volutopsius norvegicus* (Gmelin, 1790) (black circles), *Habevolutopsius hirasei* (Pilsbry, 1907) (black triangles) and *Pyrulofusus deformis* (Reeve, 1847) (black squares).

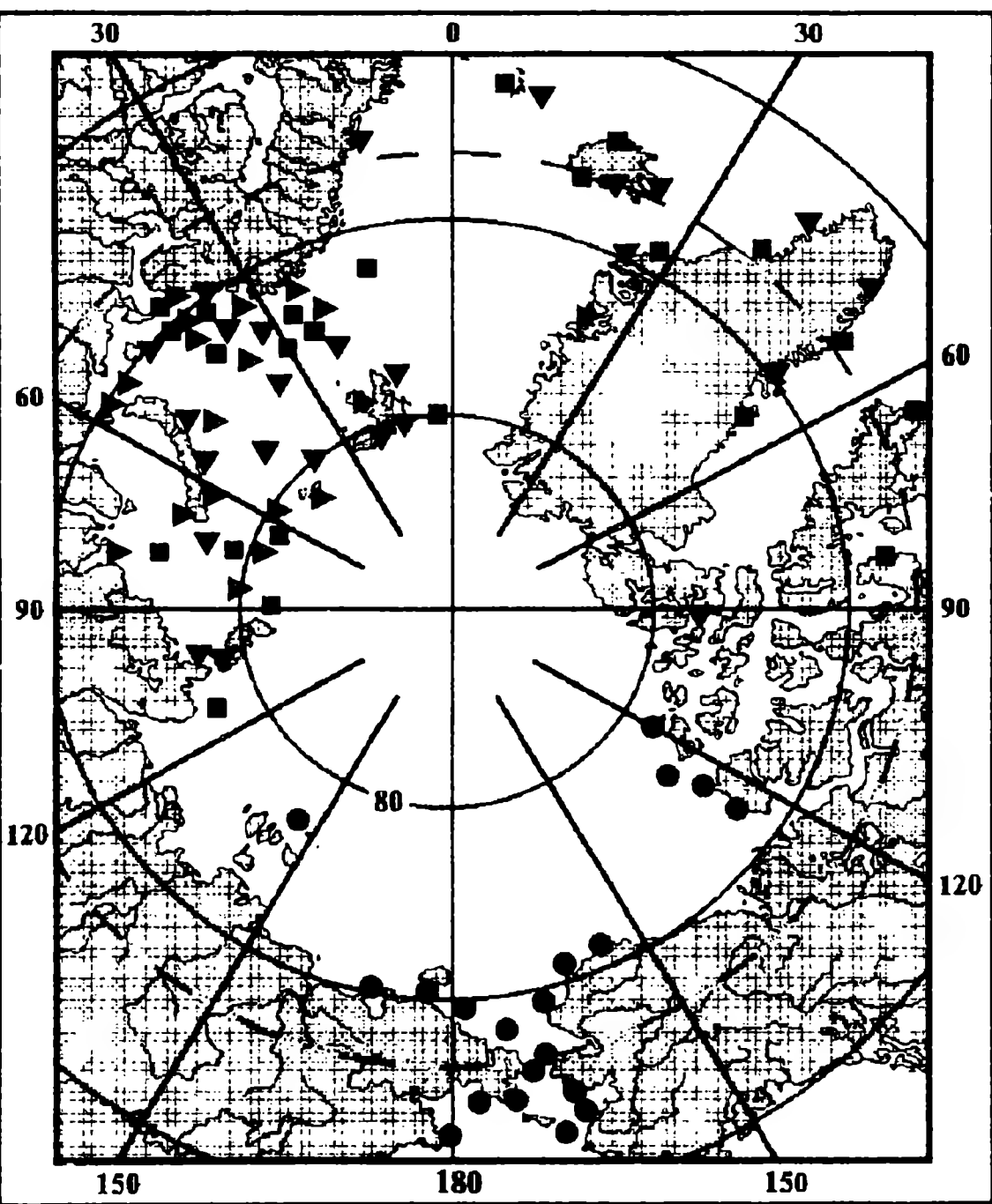


FIG. 89. Distribution of *Neptunea beringiana* (Middendorff, 1848) (black circles), *Colus islandicus* (Mohr, 1786) (black triangles) and *C. holboelli* (Moeller, 1842) (black squares).

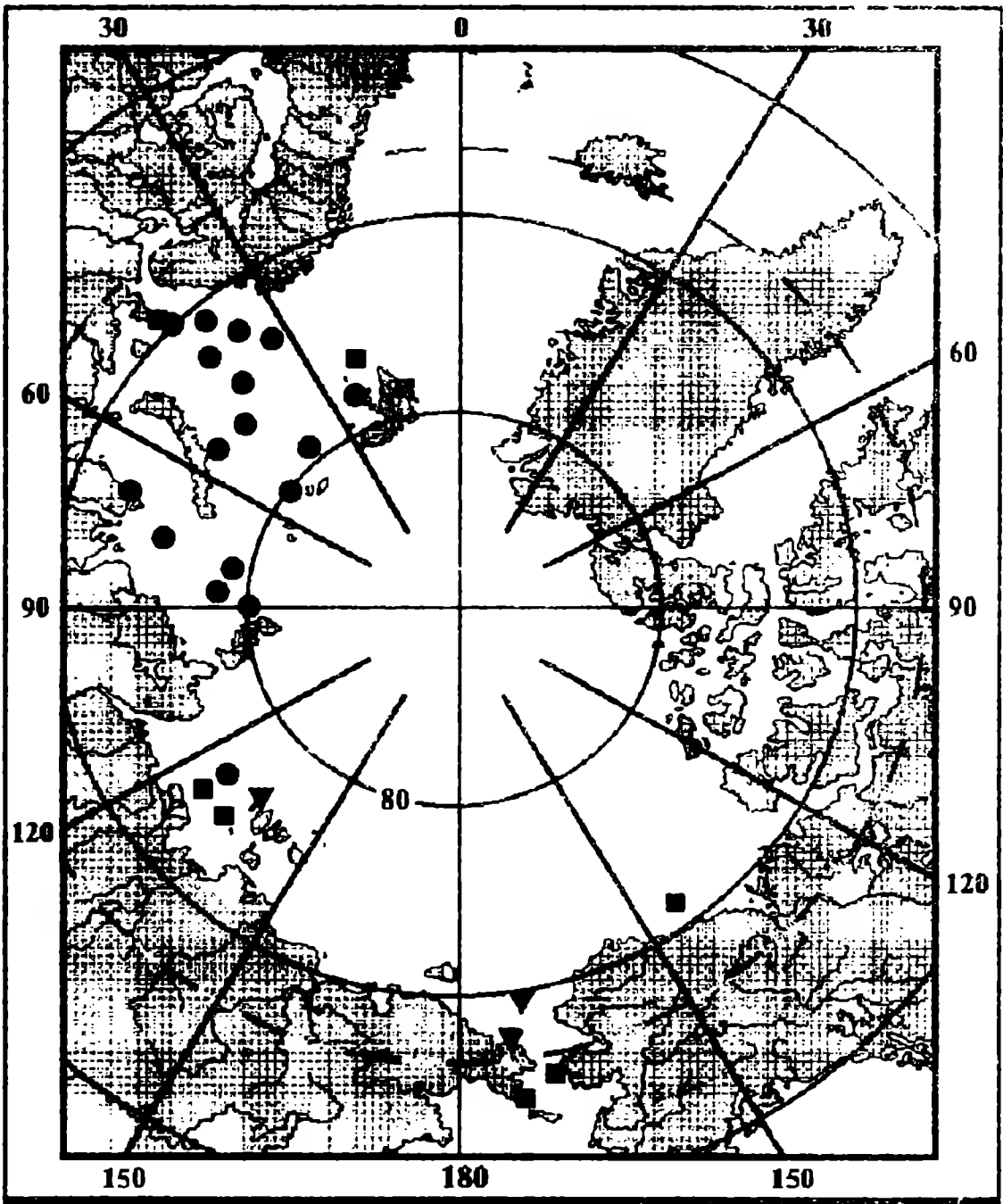
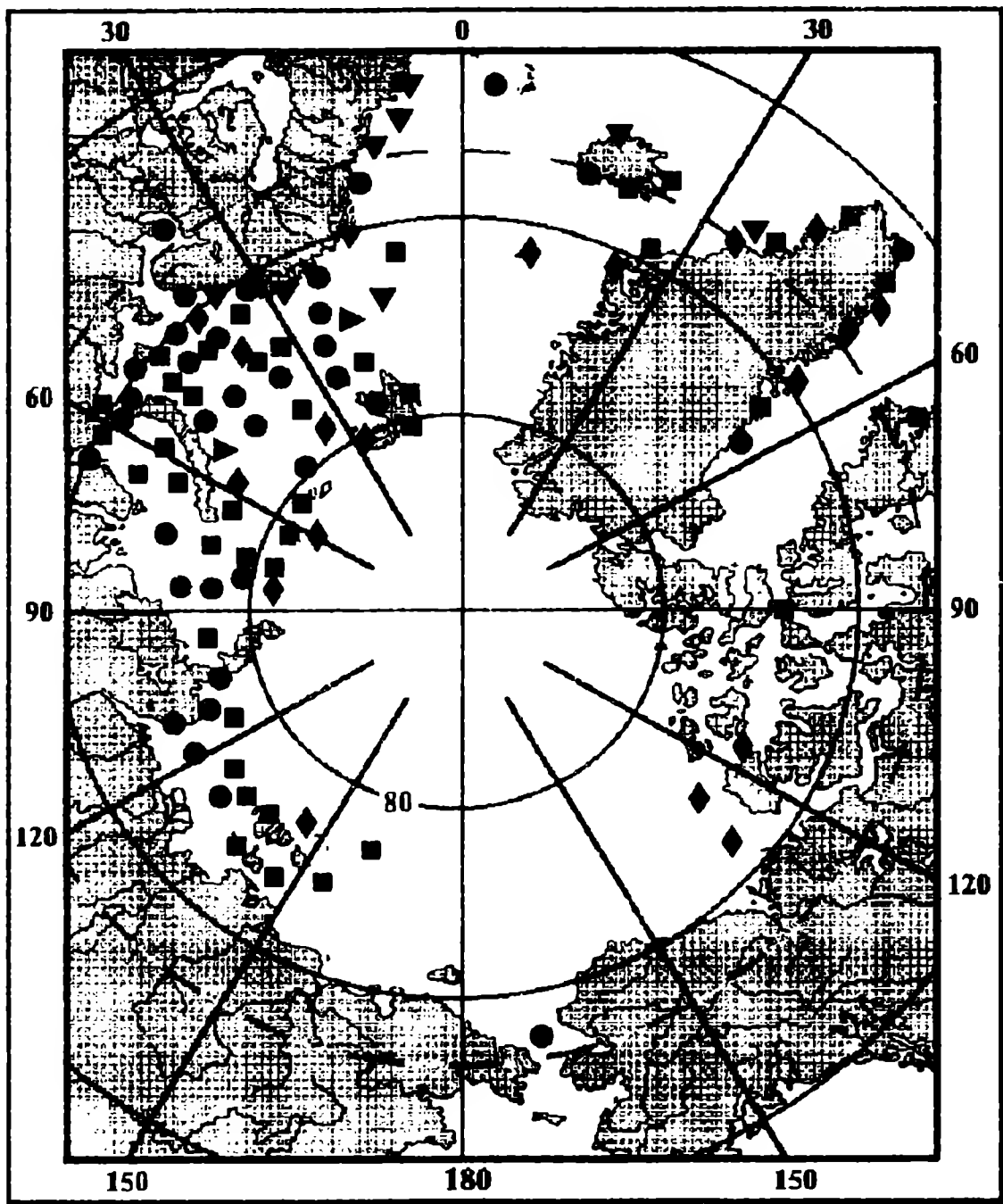


FIG. 90. Distribution of *Colus latericeus* (Moeller, 1842) (black circles), *C. glaber* (Verkrutzen in Kobelt, 1876) (black triangles), *C. sabini* (Gray, 1824) (black squares) and *C. turgidulus* (Jeffreys, 1877) (black rhombuses).

FIG. 92. Distribution of *Colus altus* (S.Wood, 1848) (black circles), *C. conulus* (Aurivillius, 1885) (black triangles) and *C. (P.) kroyeri* (Moeller, 1842) (black squares).

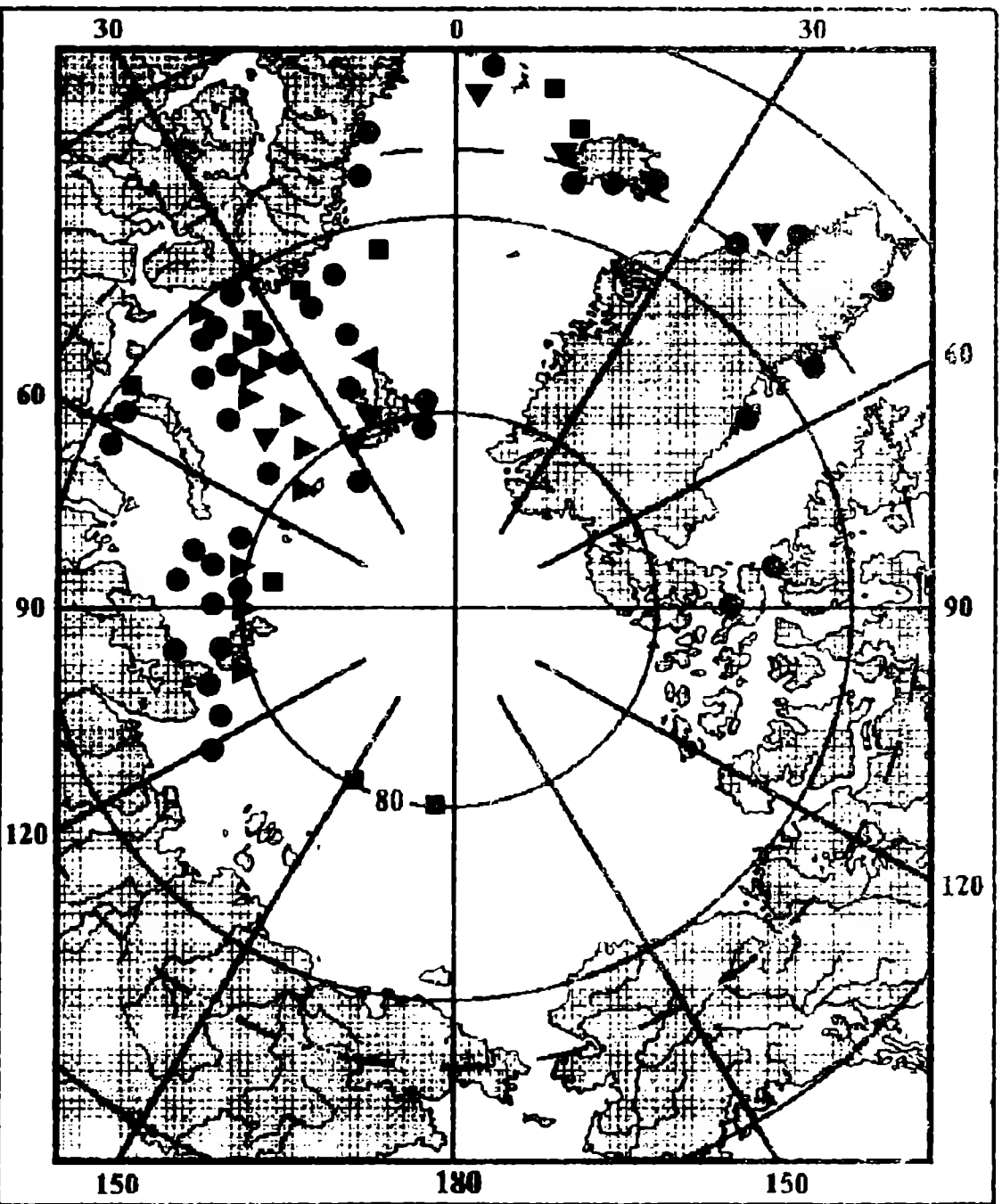
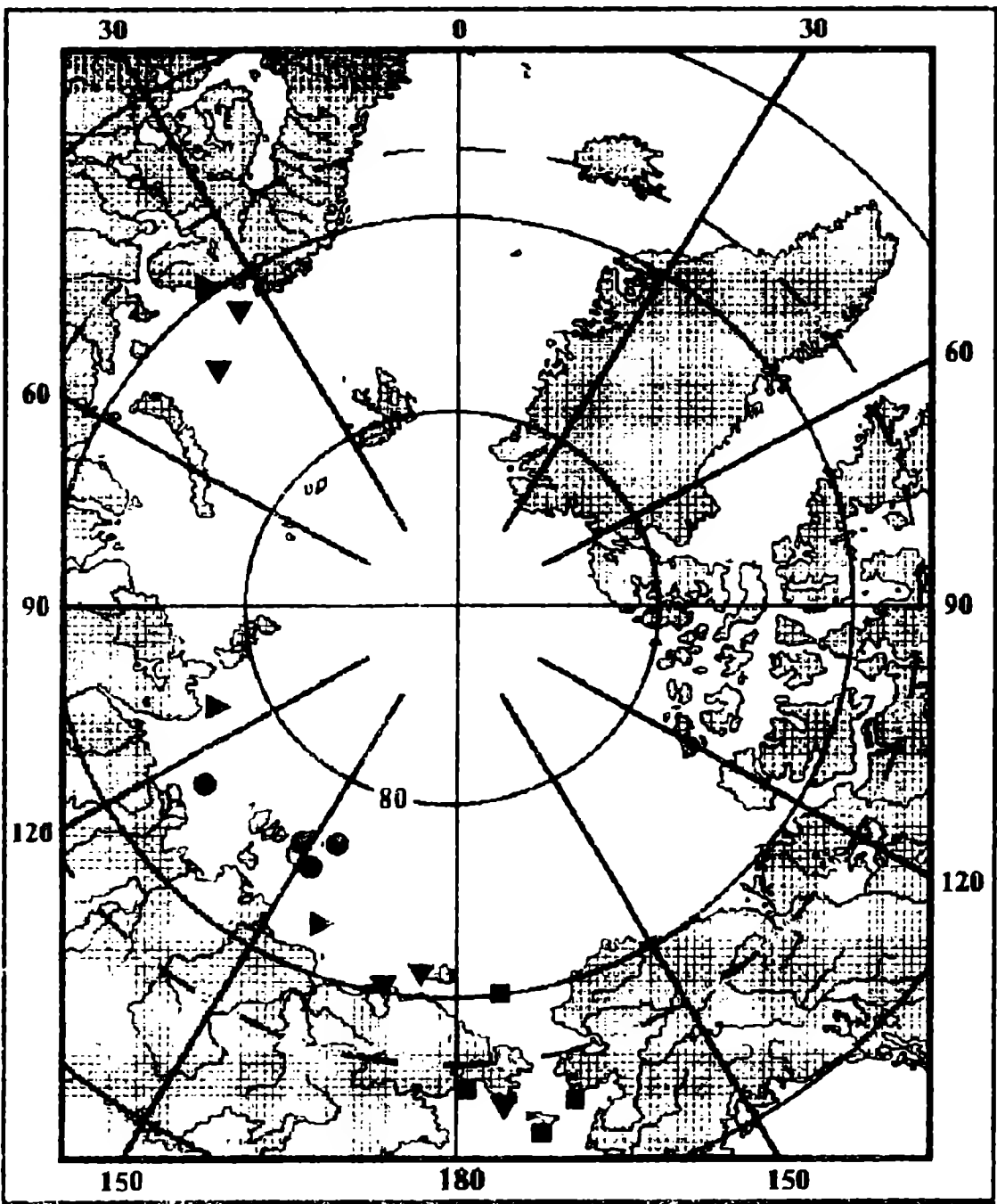
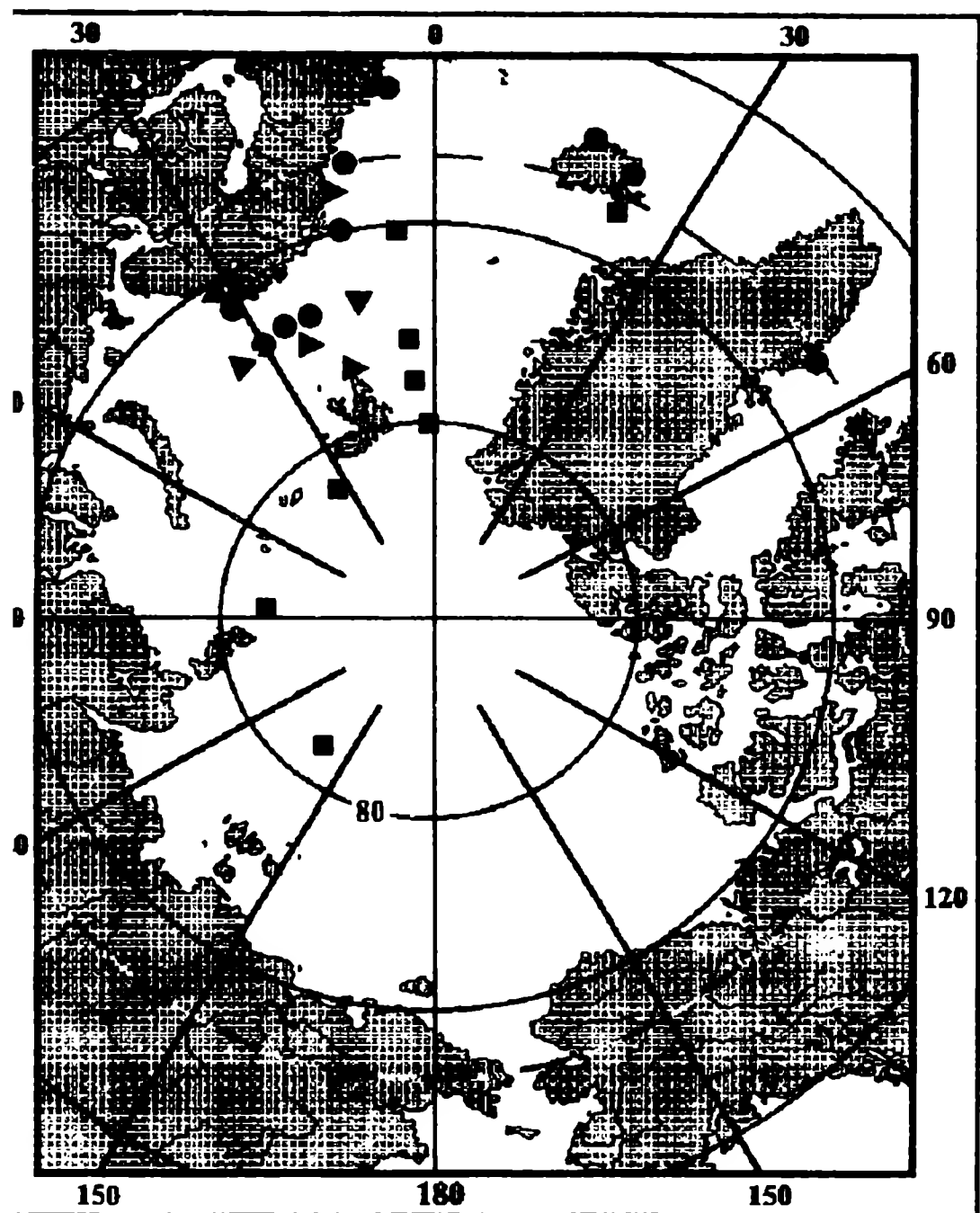


FIG. 91. Distribution of *Colus pubescens* (Verrill, 1882) (black circles), *C. (A.) brevicauda* (Deshayes, 1832) (black triangles) and *C. (L.) hypolisus* (Dall, 1891) (black squares).

FIG. 93. Distribution of *Turrisipho (T.) lachesis* (Moerch, 1869) (black circles), *T. (T.) voeringi* Bouchet et Waren, 1985 (black triangles) and *T. (T.) dalli* (Friele, 1881) (black squares).



94. Distribution of *Turrisipho (Siphonorbis) moebii* (black circles), *T. (S.) fenestratus* (black triangles) and *Mohnia (Tacita) ielsseni* (black squares).

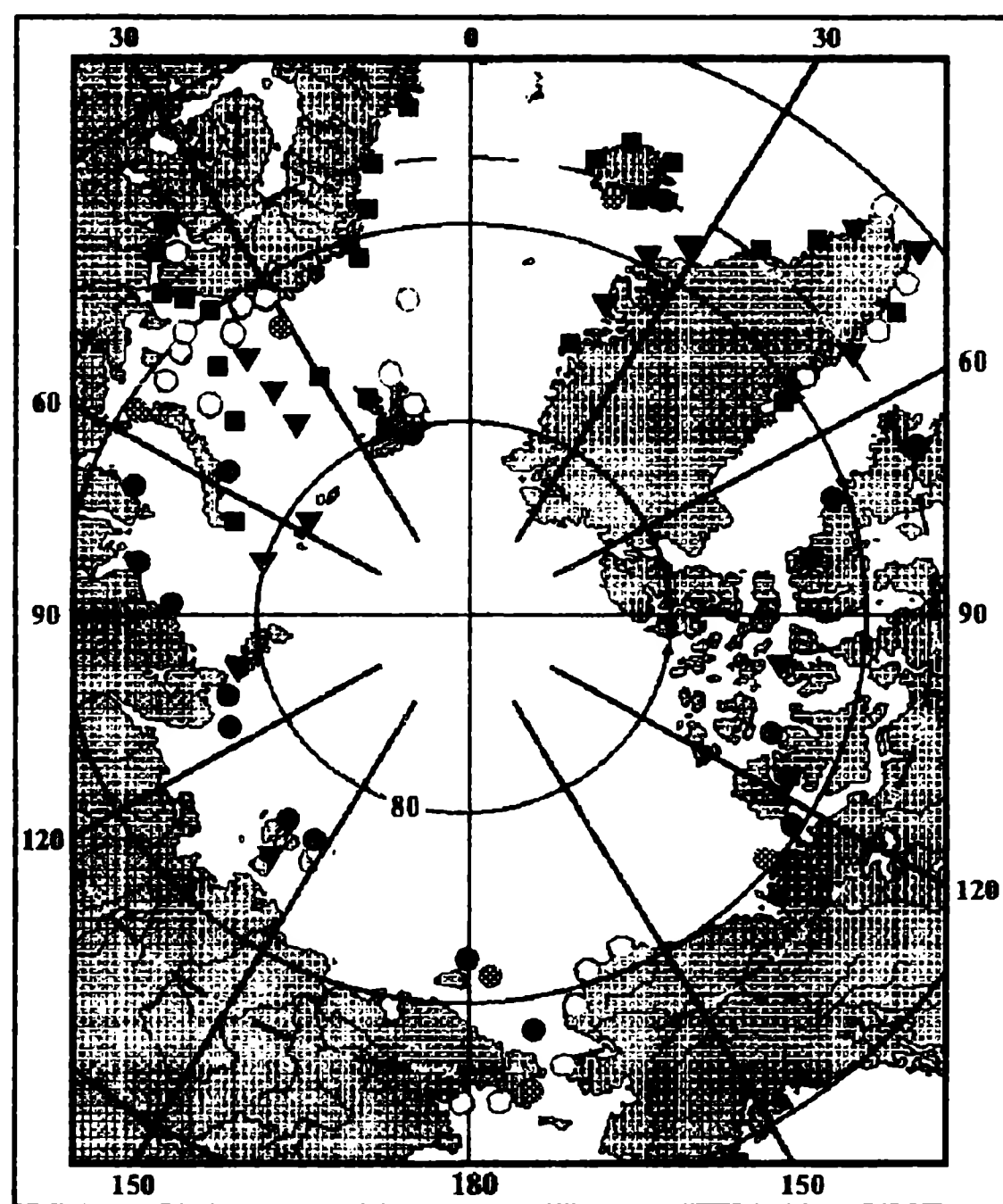
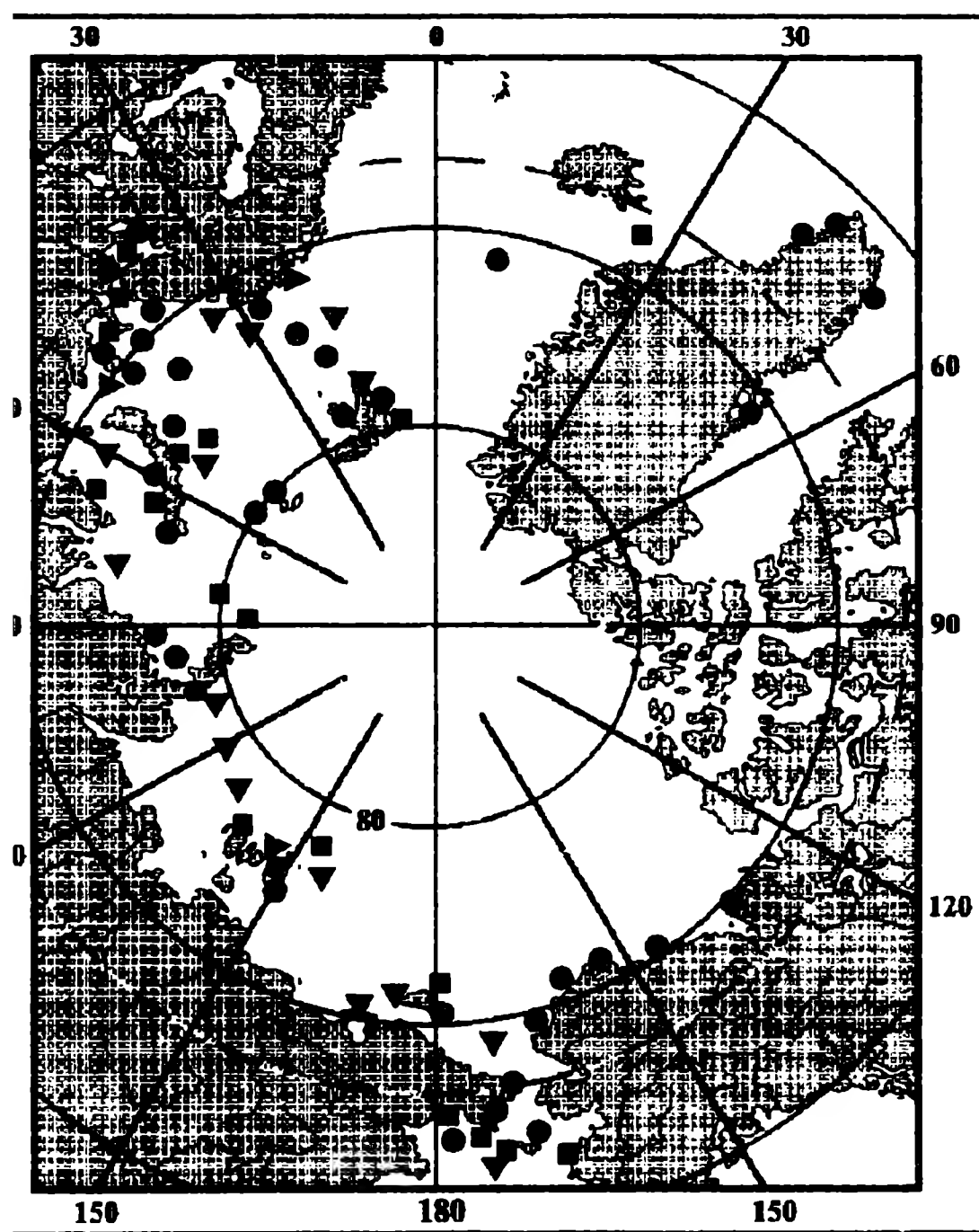


FIG. 96. Distribution of *Buccinum ciliatum ciliatum* (white circles), *B. ciliatum sericatum* (black circles), *B. micropoma* (black triangles) and *B. undatum* (black squares).



95. Distribution of *Buccinum glaciale* (black circles), *B. angulosum* (black triangles) and *B. tzani* (black squares).

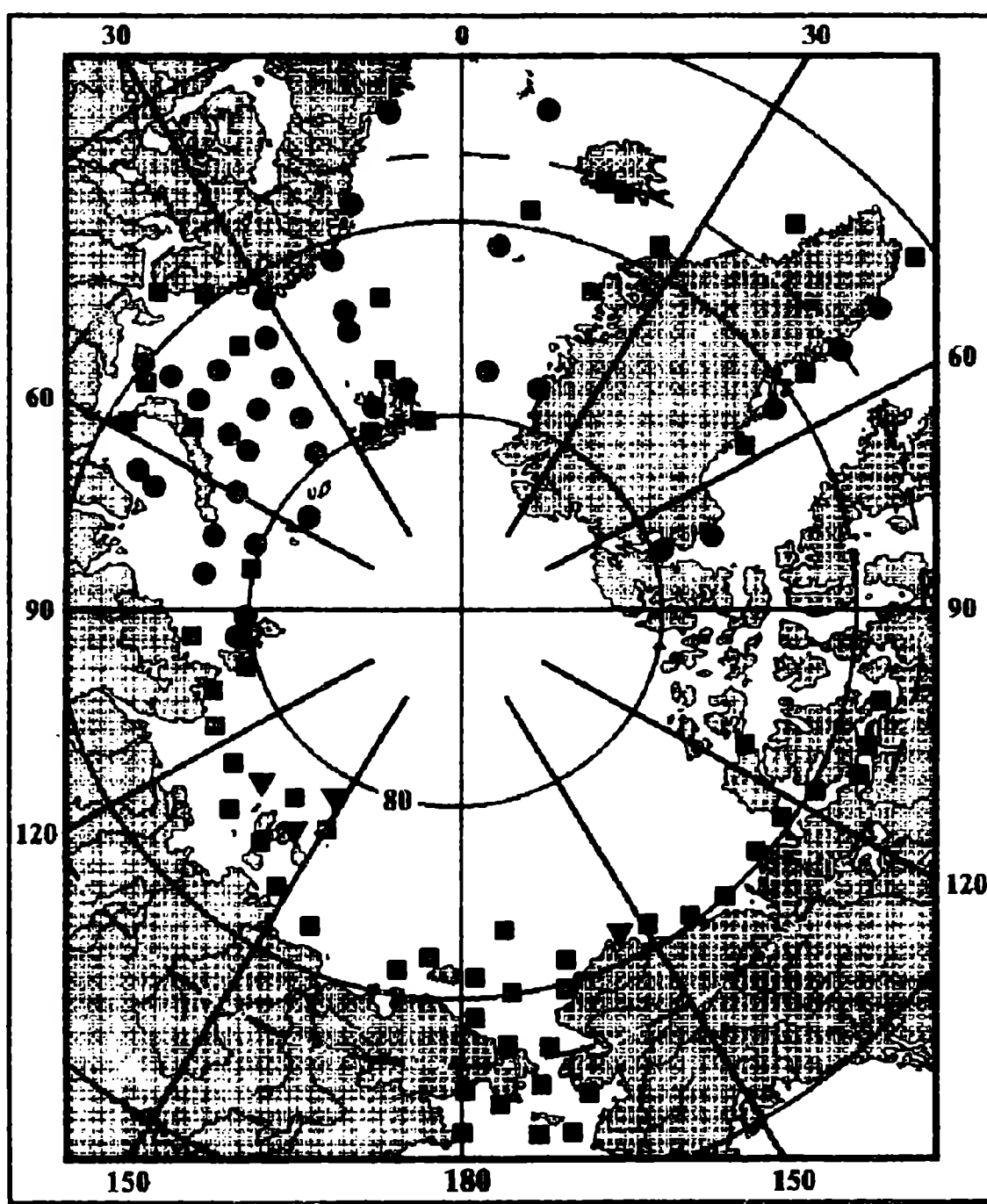


FIG. 97. Distribution of *Buccinum fragile* (black circles), *B. physematum* (black triangles) and *B. polare* (black squares).

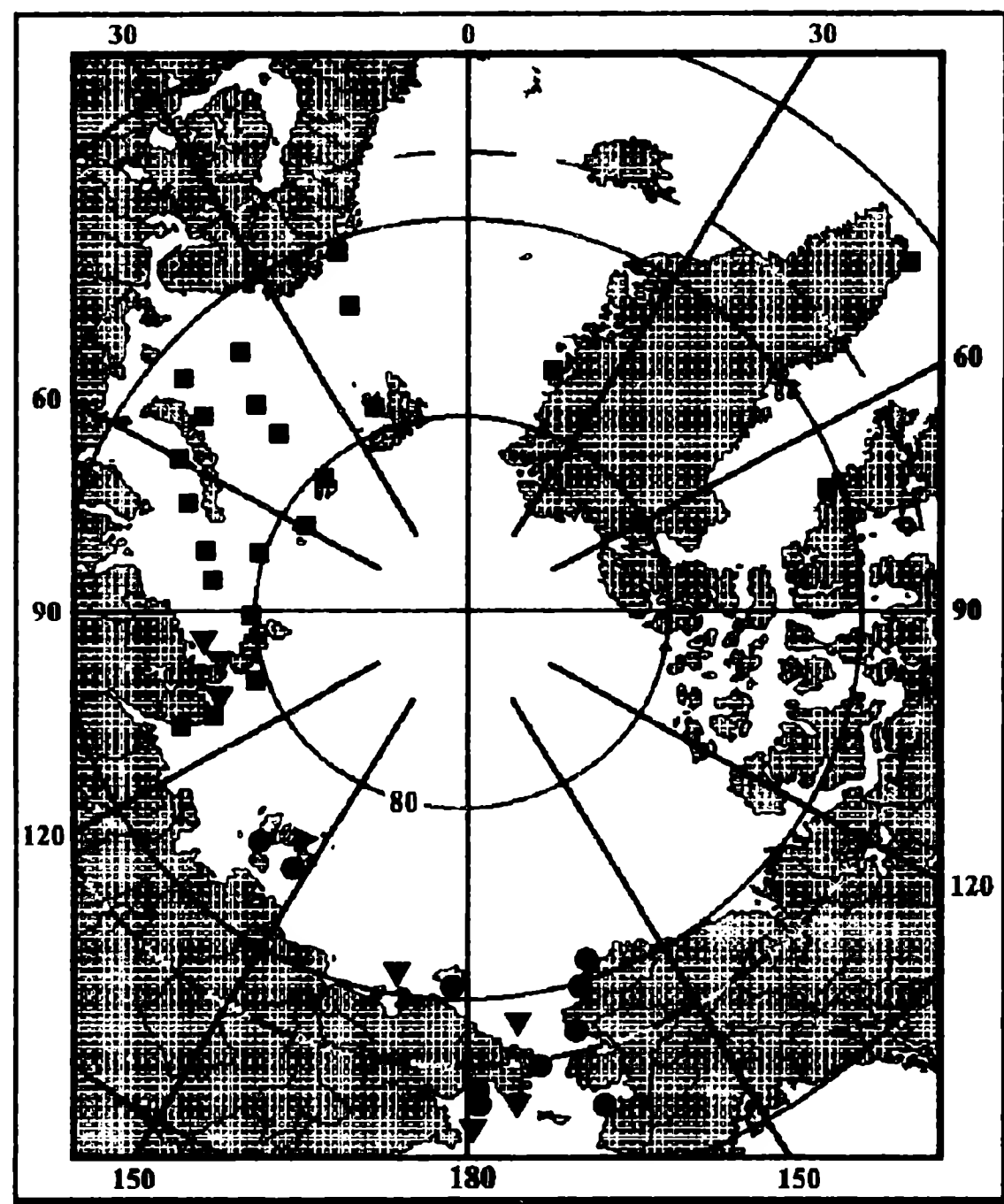


FIG. 98. Distribution of *Buccinum fringillum* Dall, 1877 (black circles), *B. polium obsoletum* Golikov, 1980 (black triangles) and *B. nivale* Friele, 1882 (black squares).

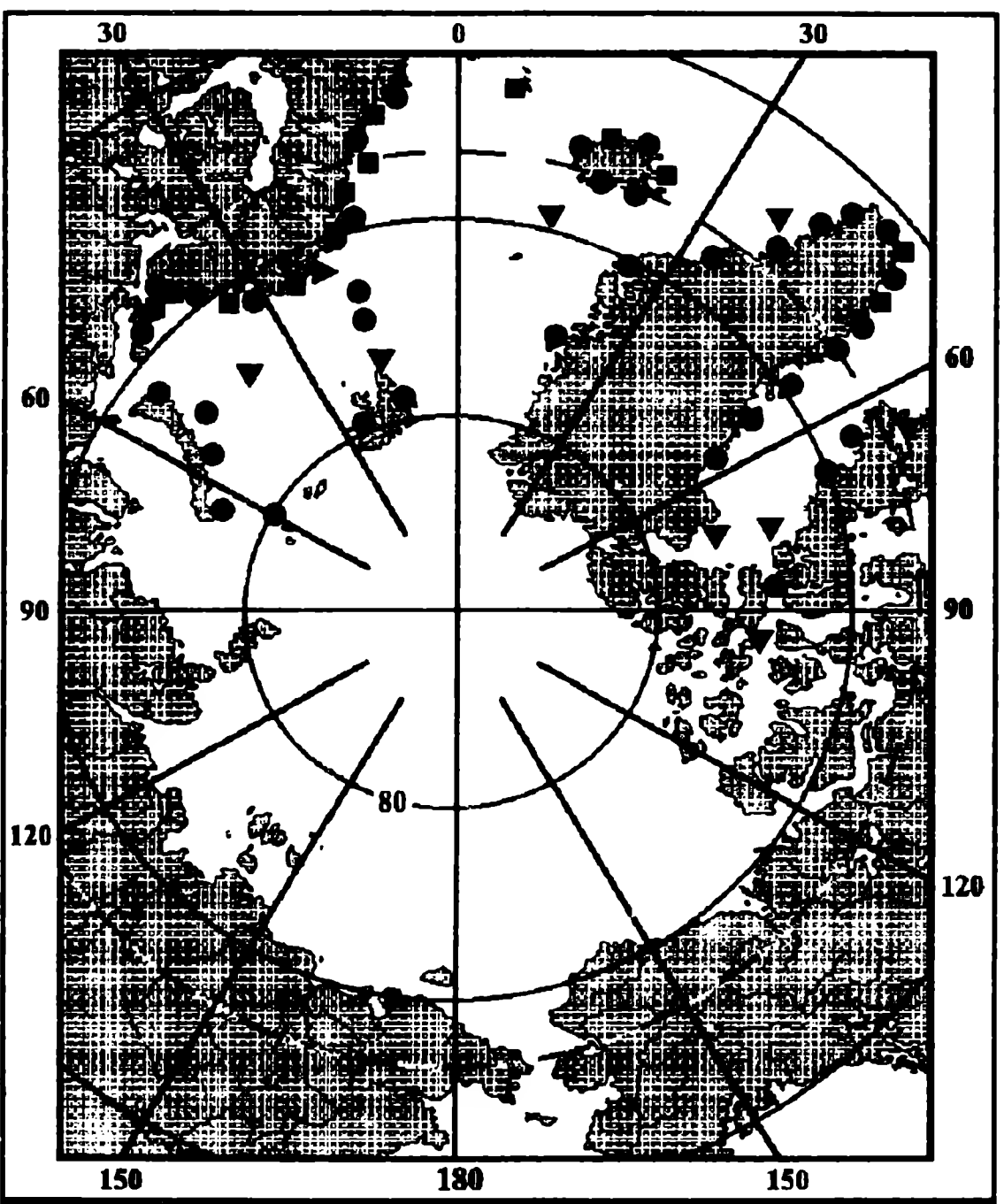


FIG. 100. Distribution of *Buccinum cyaneum* Bruguiere, 1789-1792 (black circles), *B. belcheri* Reeve, 1855 (black triangles) and *Nucella lapillus* (L., 1767) (black squares).

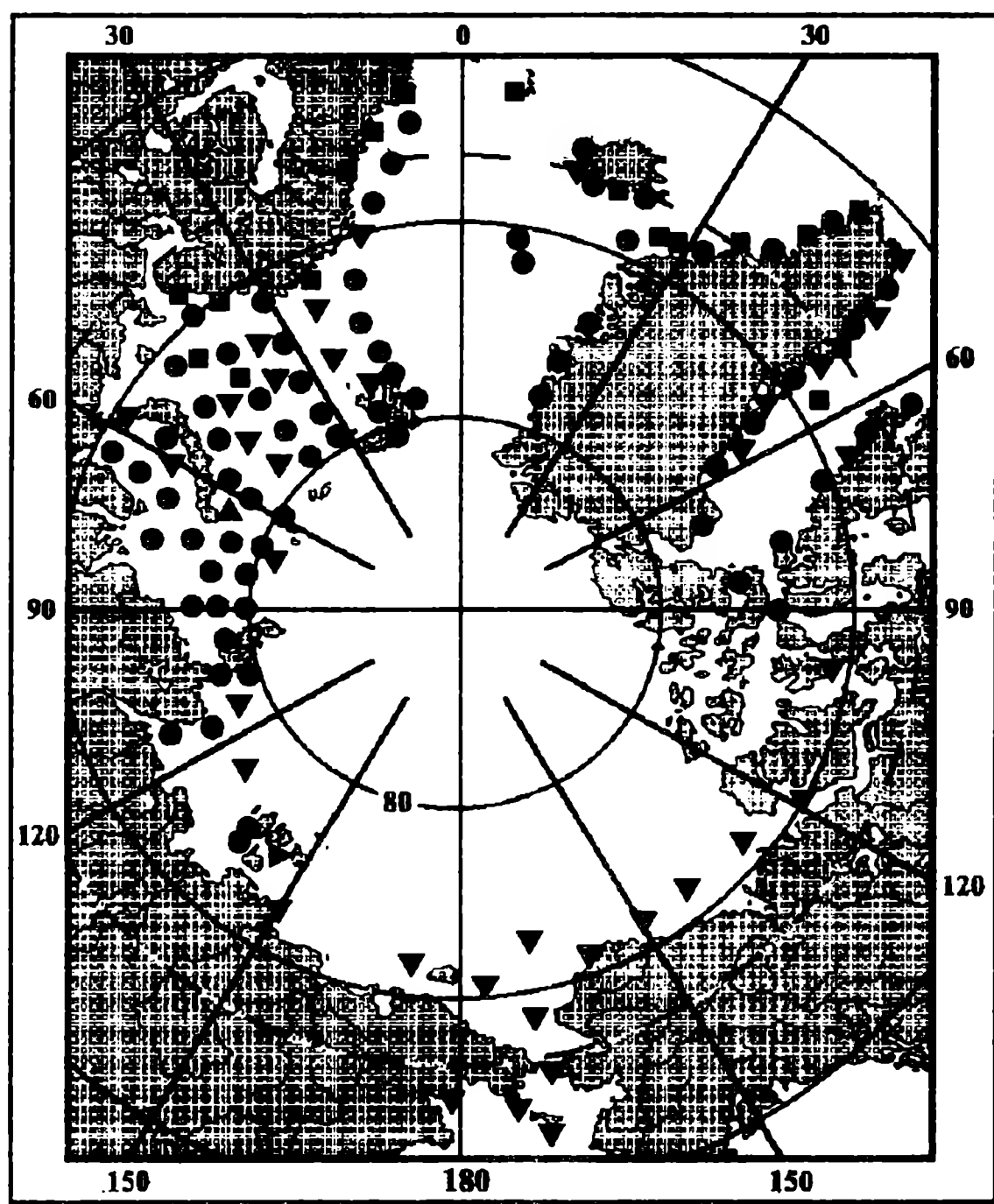


FIG. 99. Distribution of *Buccinum hydrophanum* Hancock, 1846 (black circles), *B. elatior* (Middendorff, 1849) (black triangles) and *B. finmarchianum* Verkrusen, 1875 (black squares).

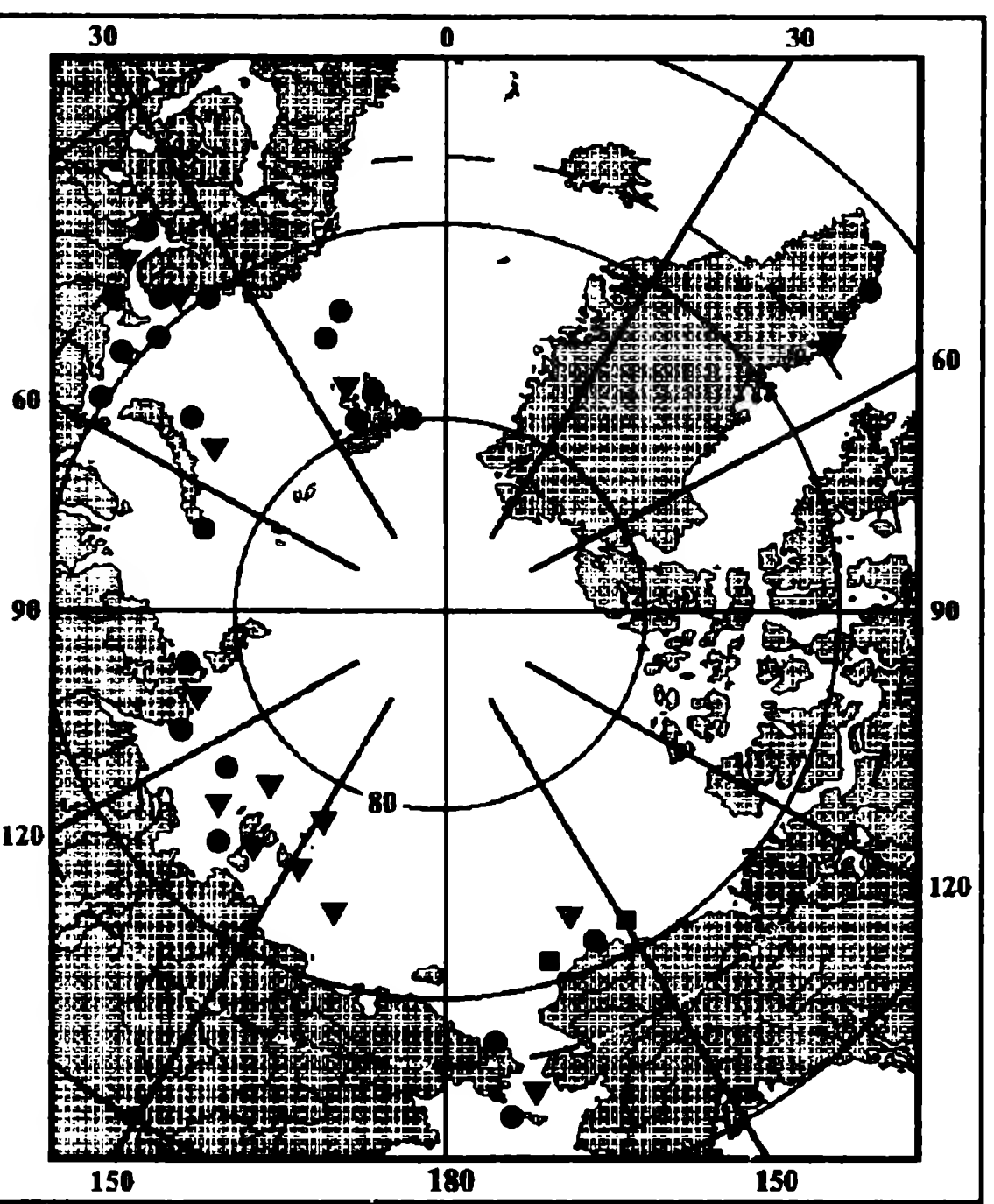


FIG. 101. Distribution of *Boreotrophon clathratus* (L., 1767) (black circles), *B. truncatus* (Stroem, 1767) (black triangles) and *Trophonopsis fabricii* (Beck in Moeller, 1842) (black squares).

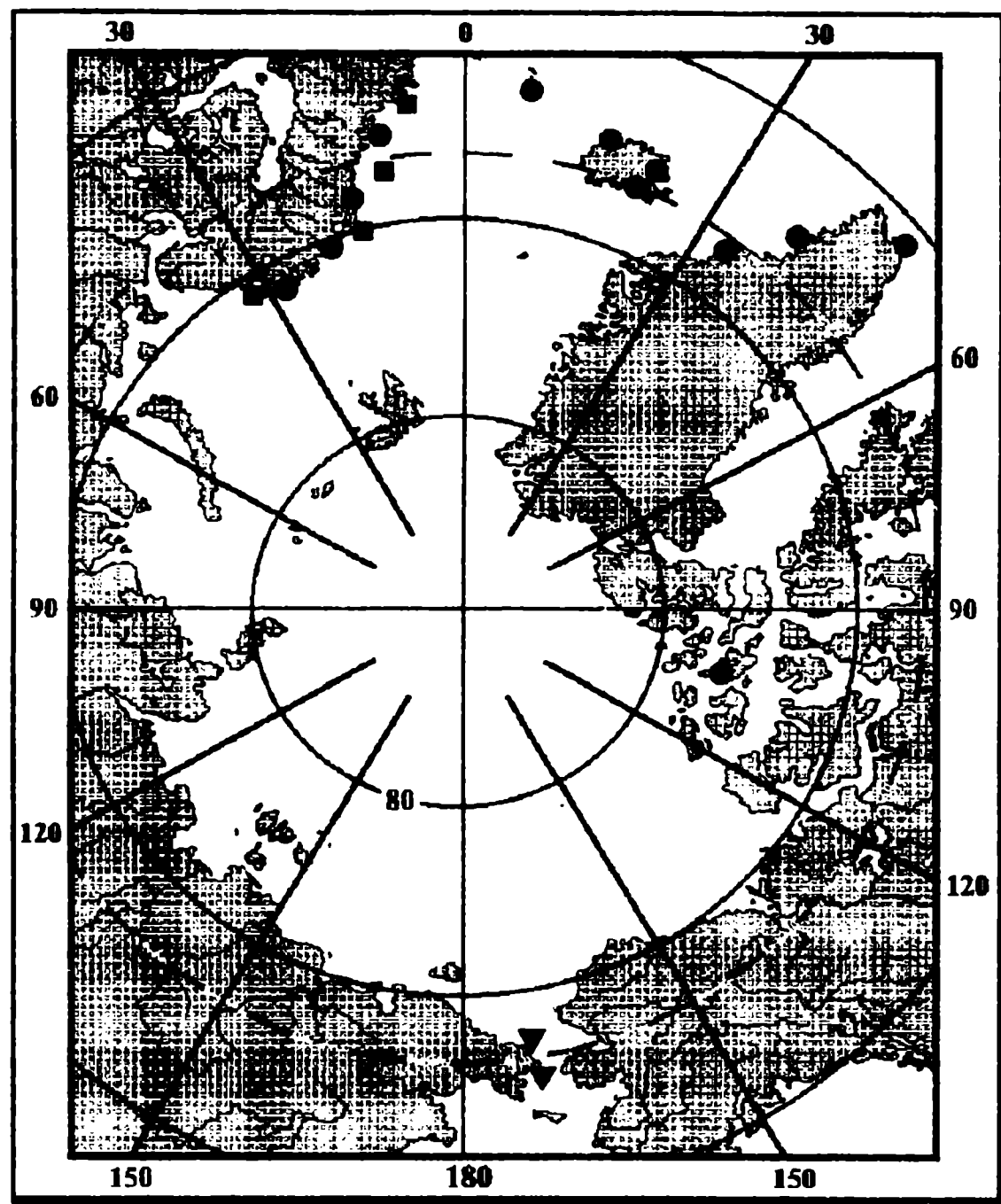


FIG. 102. Distribution of *Volutomitra groenlandica* (Beck in Moeller, 1842) (black circles), *Ptychatractus occidentalis* Stearns, 1873 (black triangles) and *Troschelia berniciensis* (King, 1846) (black squares).

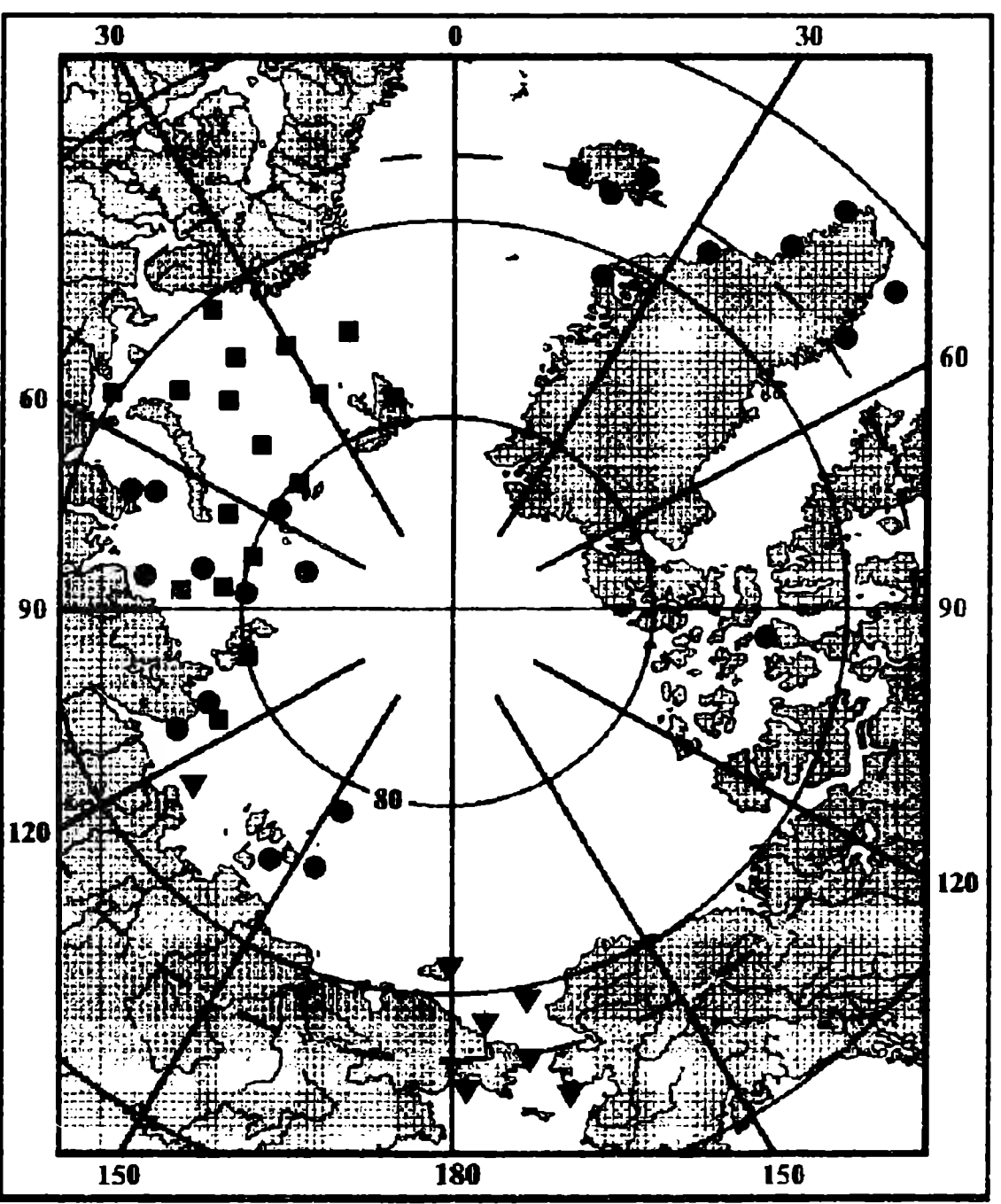


FIG. 104. Distribution of *Curtitoma decussata* (Couthouy, 1839) (black circles), *C. lawrenciana* (Dall, 1919) (black triangles) and *C. conoidea* (G.O. Sars, 1878) (black squares)

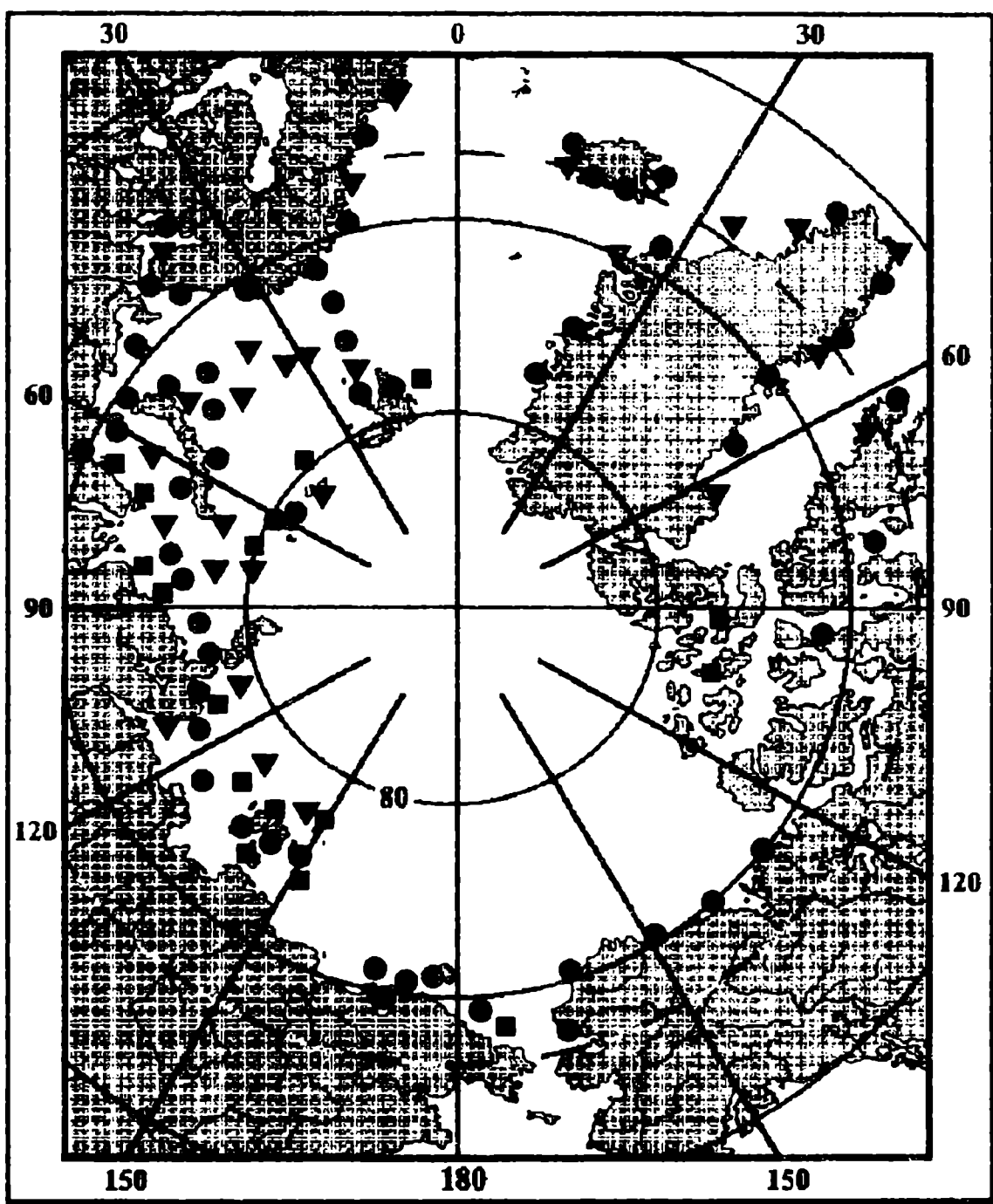


FIG 103. Distribution of *Admete viridula* (Fabricius, 1780) (black circles), *Curtitoma trevelliiana* (Turton, 1834) (black triangles) and *C. novajasemlensis* (Leche, 1878) (black squares).

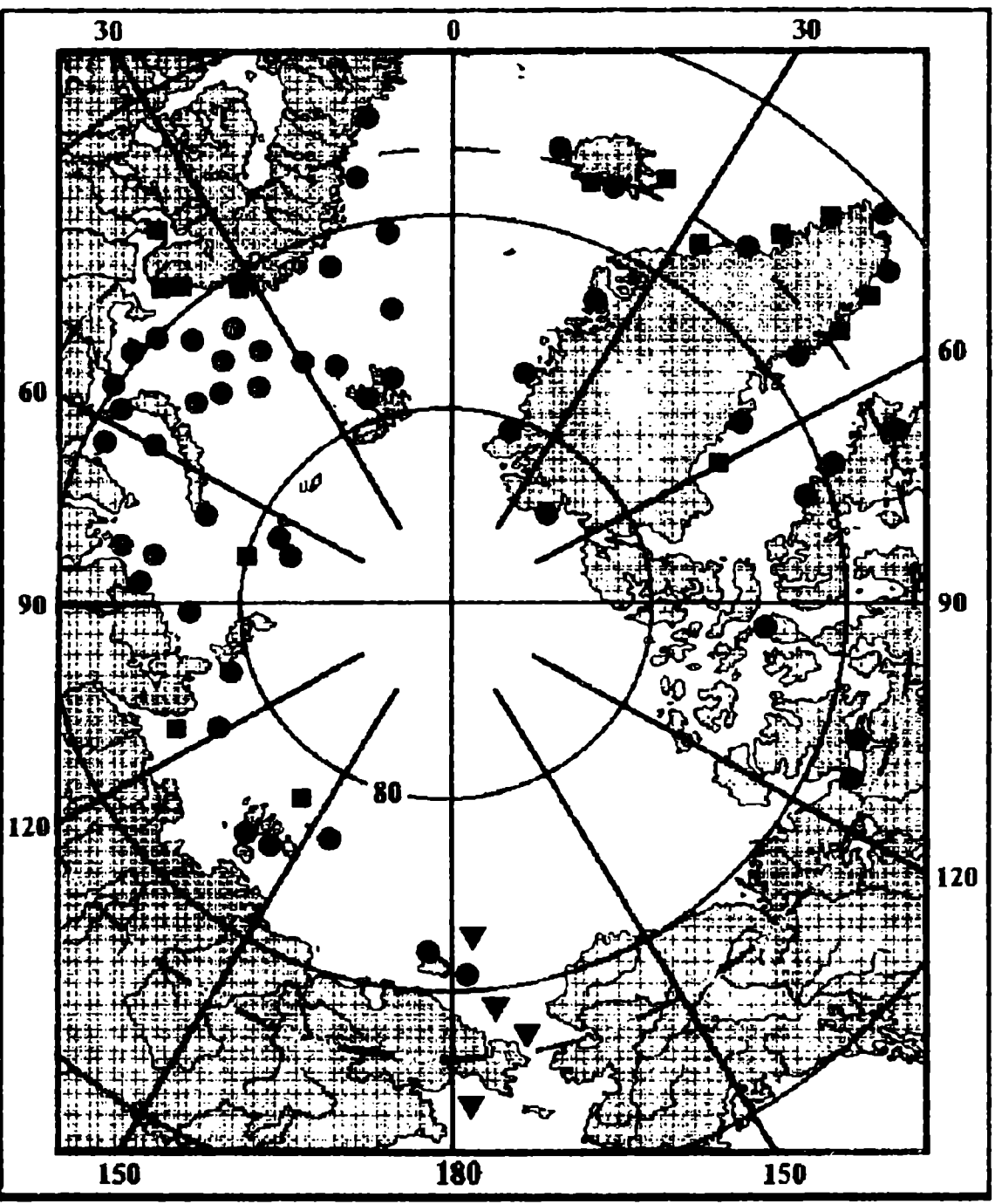


FIG. 105. Distribution of *Curtitoma violacea* (Mighels et A. Adams, 1842) (black circles), *Granotoma albrechti* (Krause, 1885) (black triangles) and *Oenopota (Oe.) pingelii* (Moeller, 1842) (black squares).

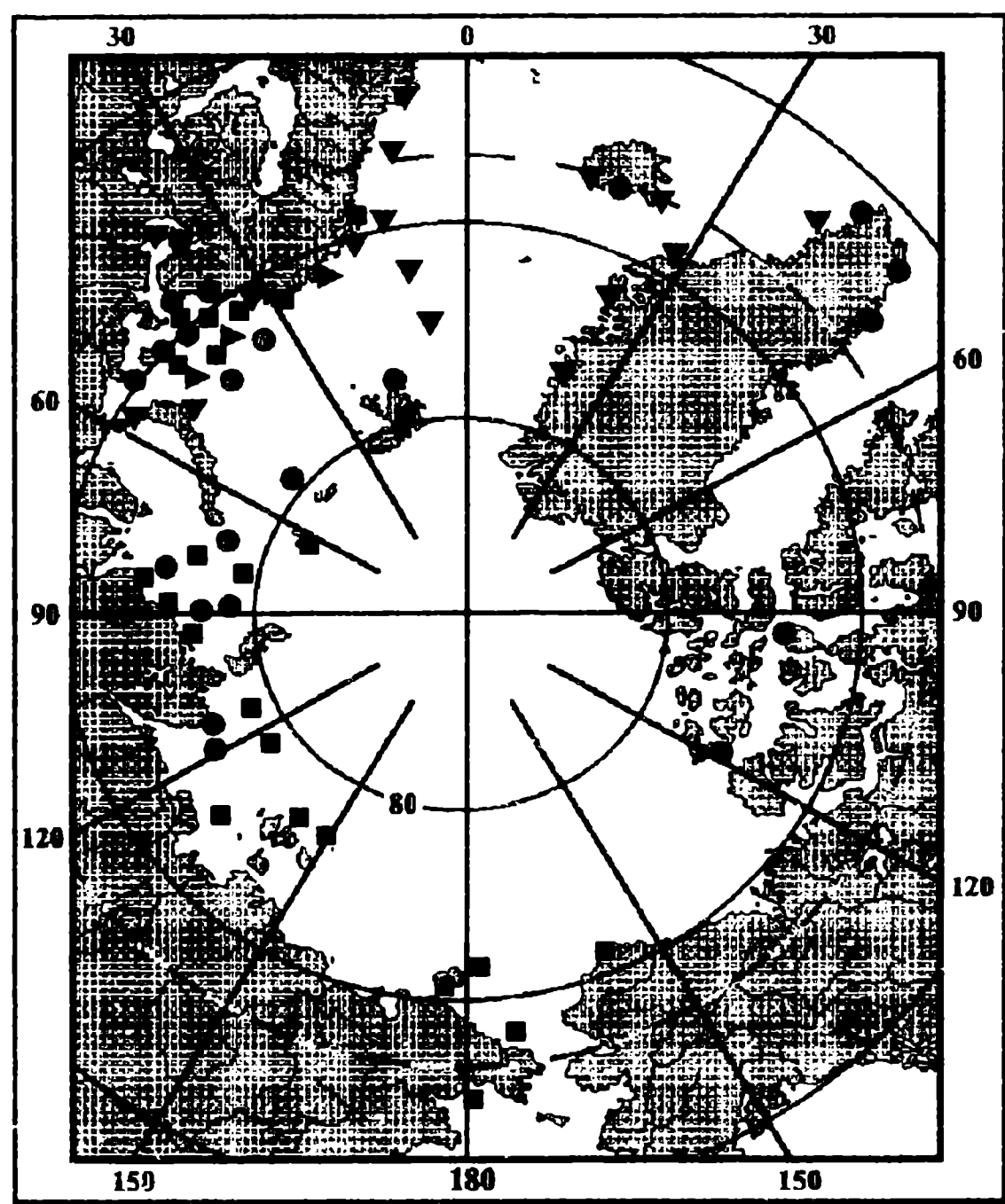


FIG. 106. Distribution of *Oenopota (Oe.) obliqua* (G.O. Sars) (black circles), *Oe. (Oe.) pyramidalis* (Stroem, 1788) (black triangles) and *Oe. (N.) impressa* (Moersch, 1869) (black squares).

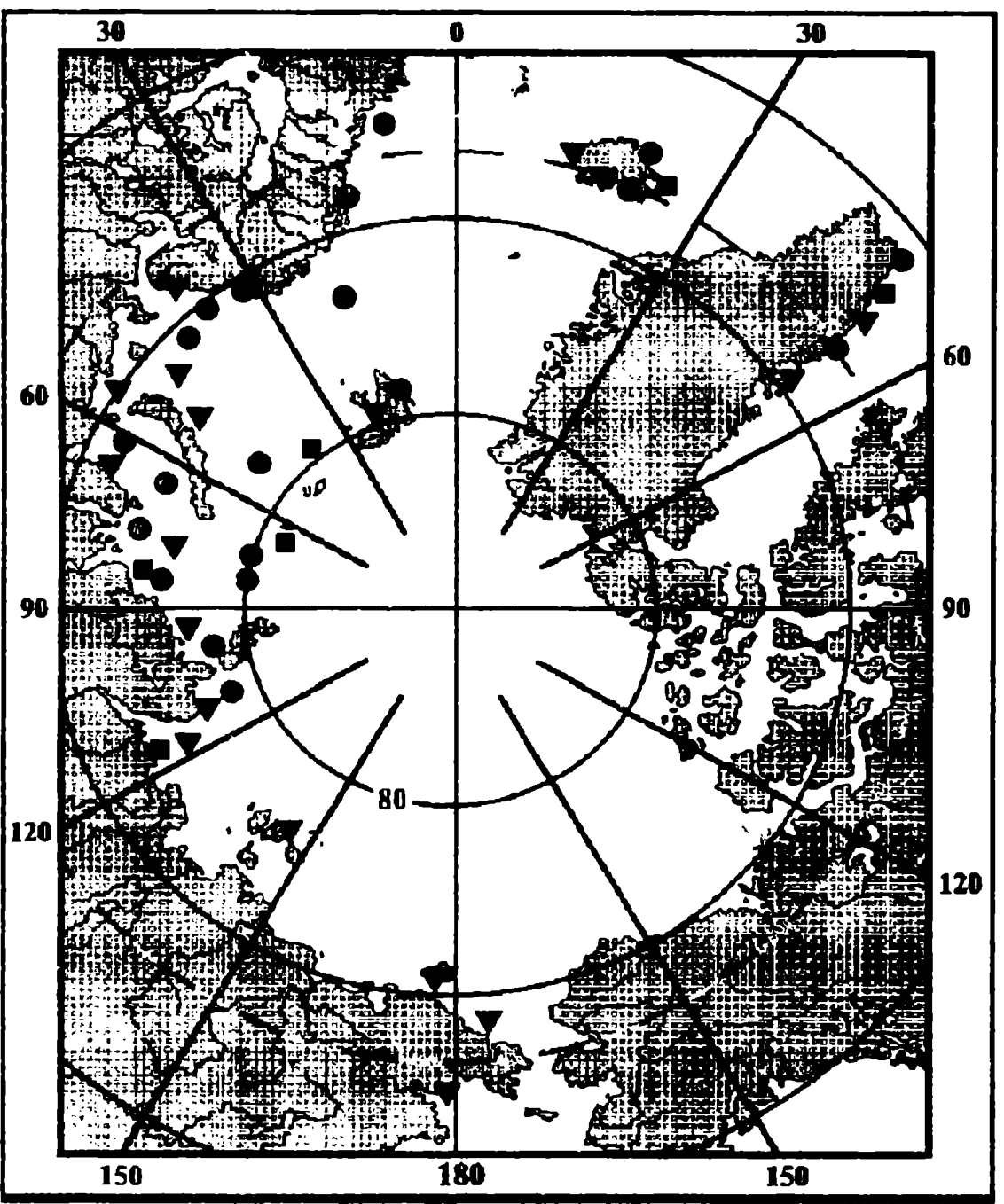


FIG. 108. Distribution of *Oenopota (N.) elegans* (Moeller, 1842) (black circles), *Obesotoma simplex* (Middendorff, 1849) (black triangles) and *O. gigantea* (Moersch, 1869) (black squares).

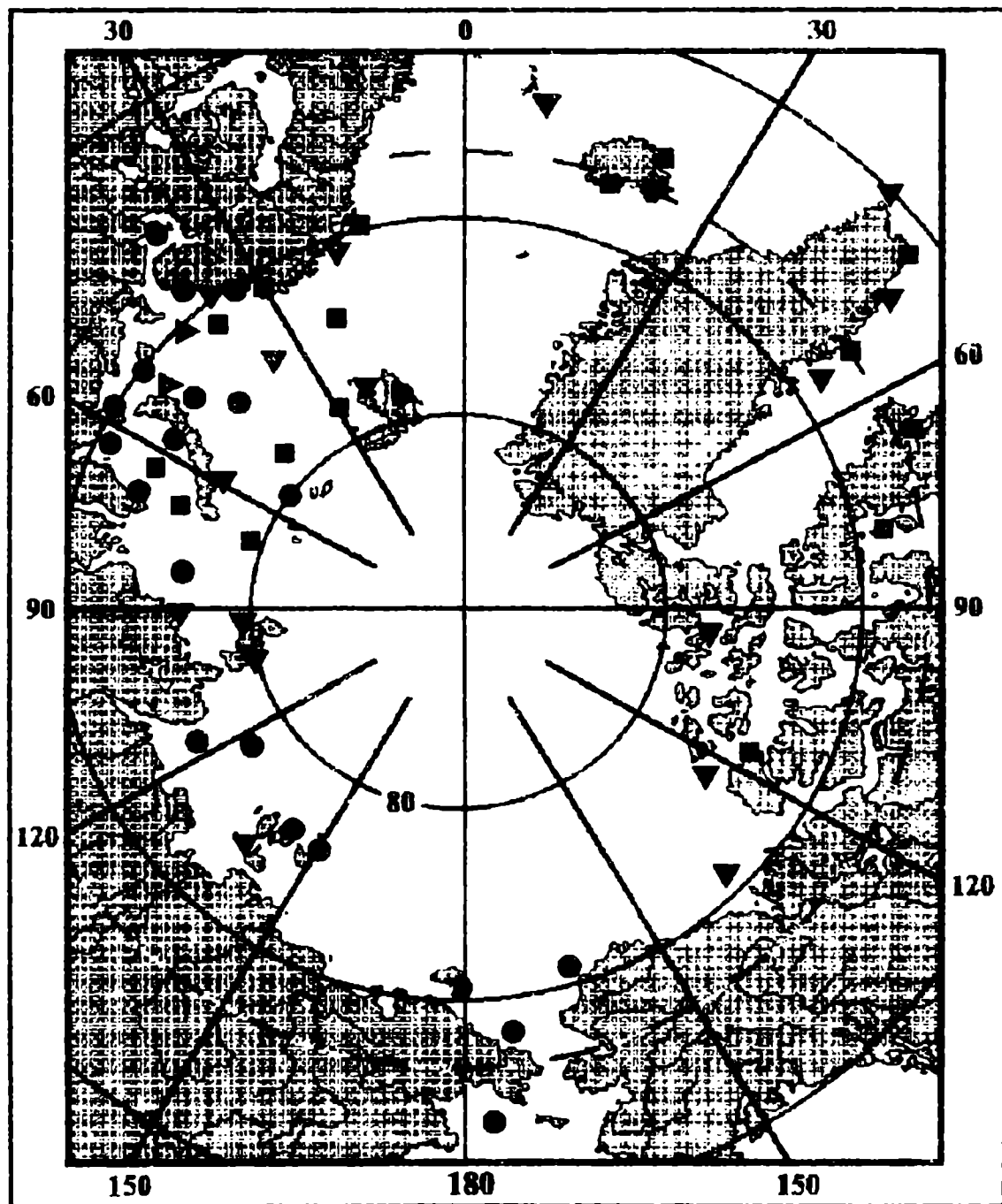


FIG. 107. Distribution of *Oenopota (N.) harpa* (Dall, 1884) (black circles), *Oe. (N.) cinerea* (Moeller, 1842) (black triangles) and *Oe. (N.) declivis* (Loven, 1846) (black squares).

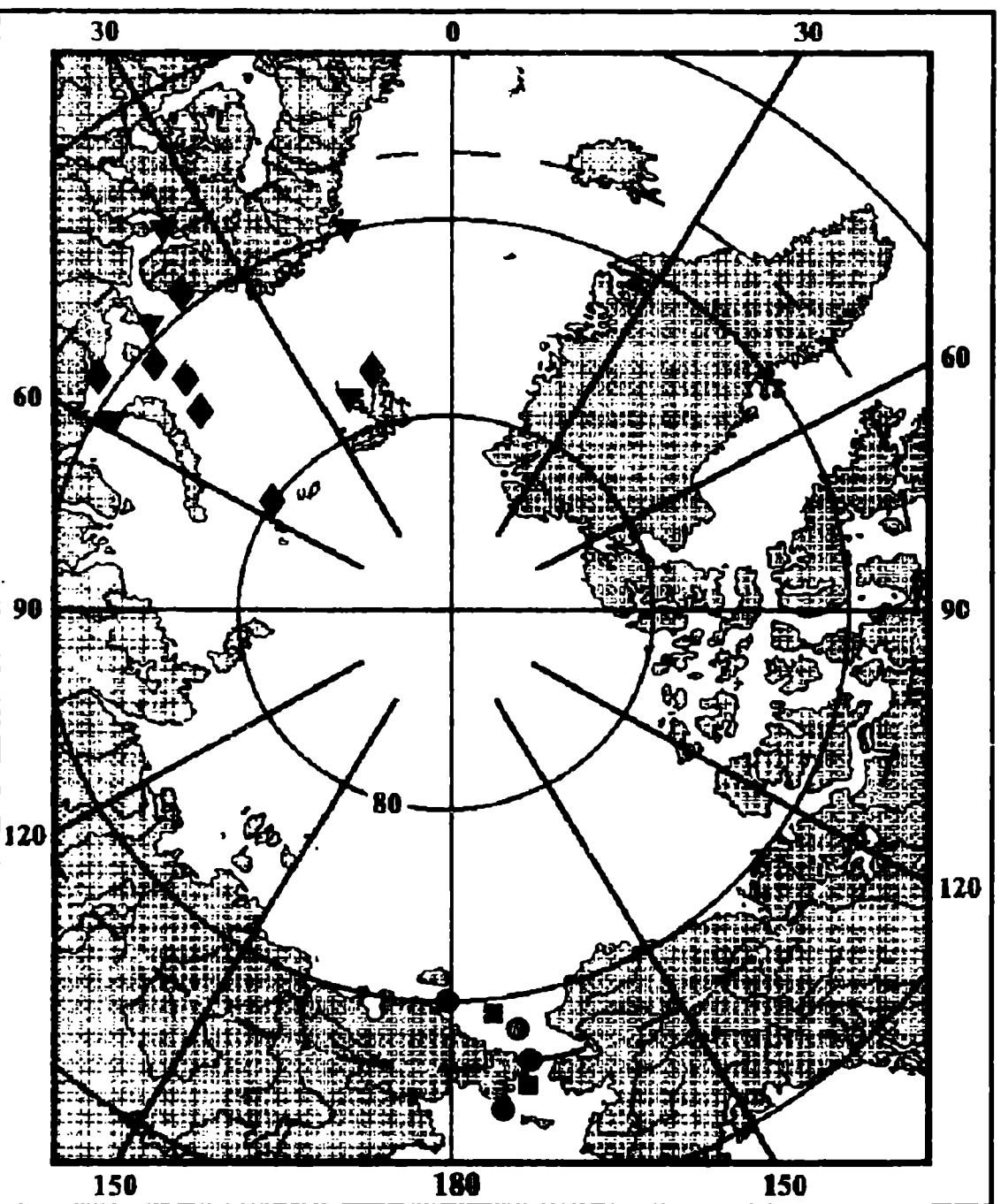


FIG. 109. Distribution of *Obesotoma schantarica* (Middendorff, 1849) (black circles), *O. gigas* (Verkrusen, 1875) (black triangles), *O. tenuilirata* Dall, 1878 (black squares) and *O. woodiana* (Moeller, 1842) (black rhombuses).

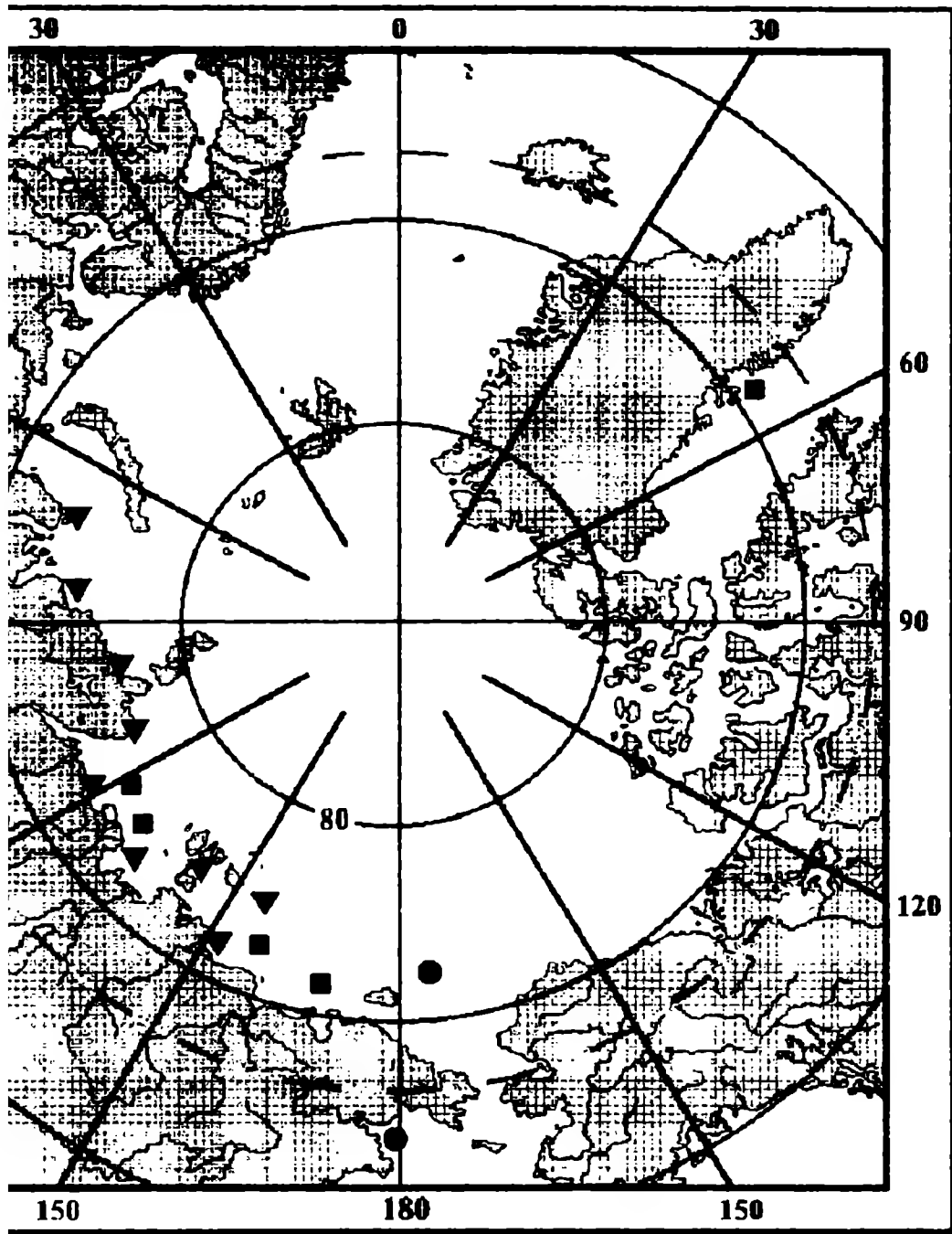


FIG. 110. Distribution of *Obesotoma robusta* (Packard, 1867) (black circles), *O. starobogatovi* Bogdanov, 1990 (black circles), *O. tumida* (Posselt et Jensen, 1898) (black circles)

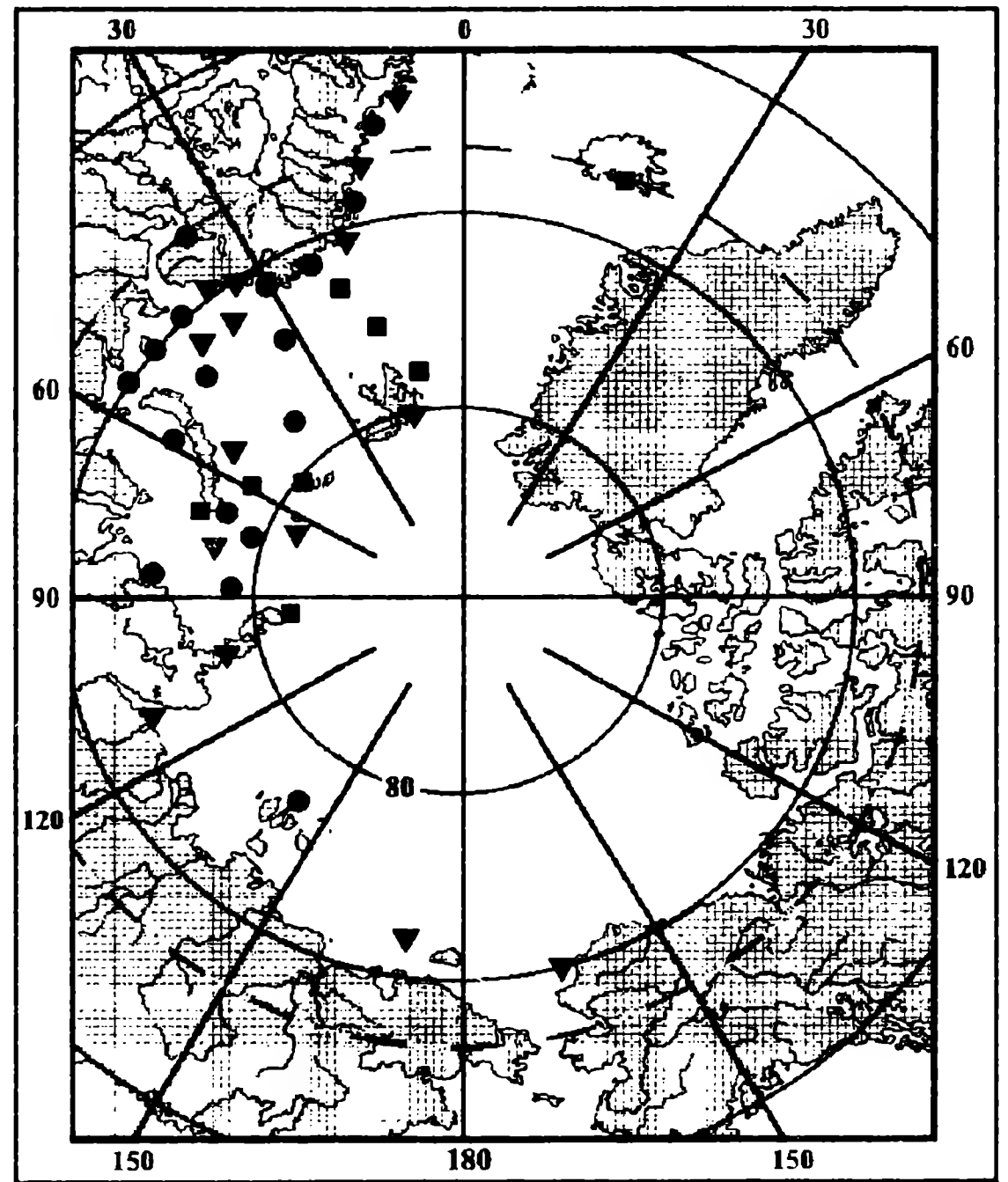


FIG. 112. Distribution of *Propebela (P.) rugulata* (Moeller in Troschel, 1886) (black circles), *P. (P.) scalaris* (Moeller, 1842) (black triangles) and *P. (P.) scalaroides* (G.O. Sars, 1878) (black squares)

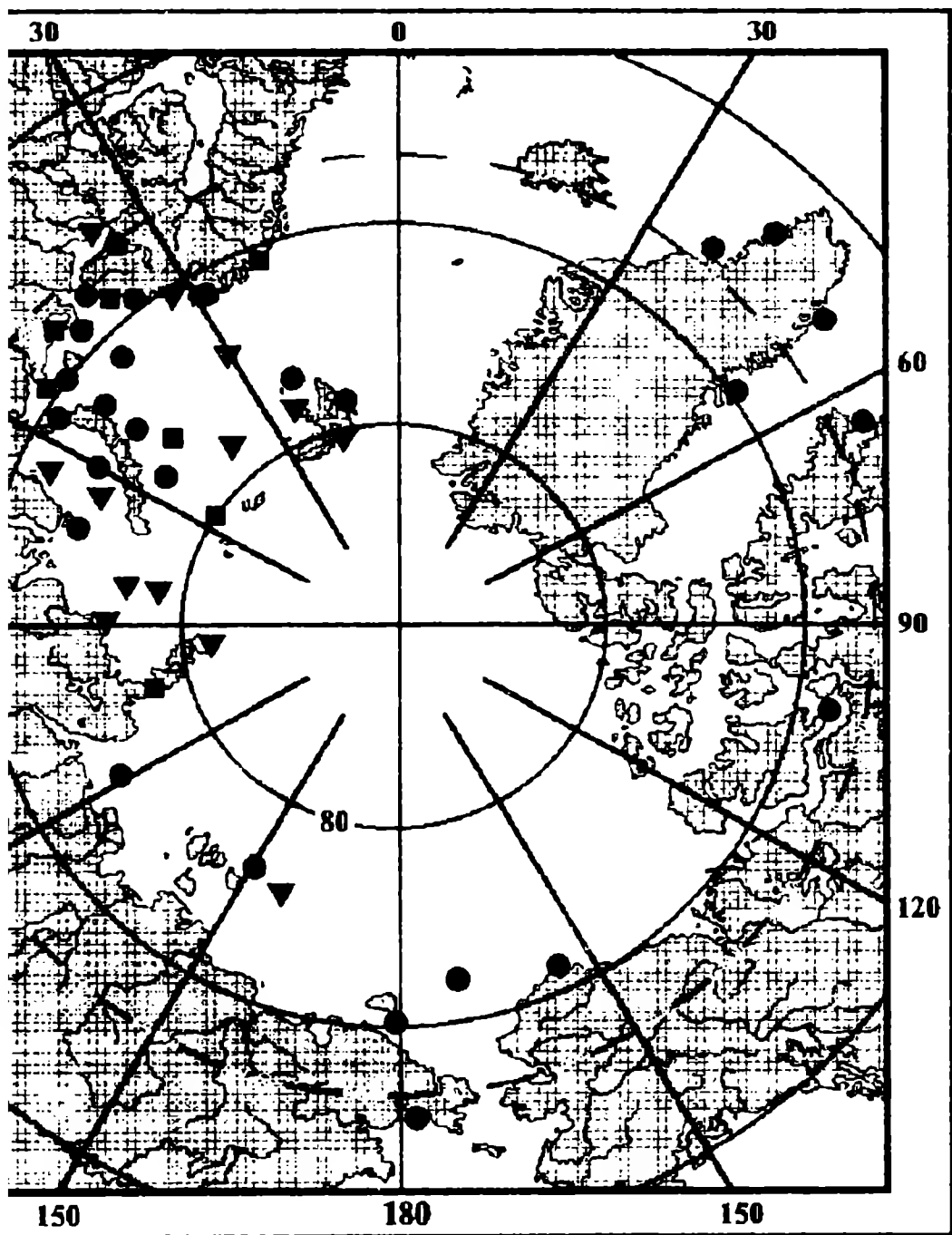


FIG. 111. Distribution of *Propebela (P.) nobilis* (Moeller, 1842) (black circles), *P. (P.) spitzbergensis* (Friele, 1886) (black circles), and *P. (P.) assimilis* (G.O. Sars, 1878) (black circles)

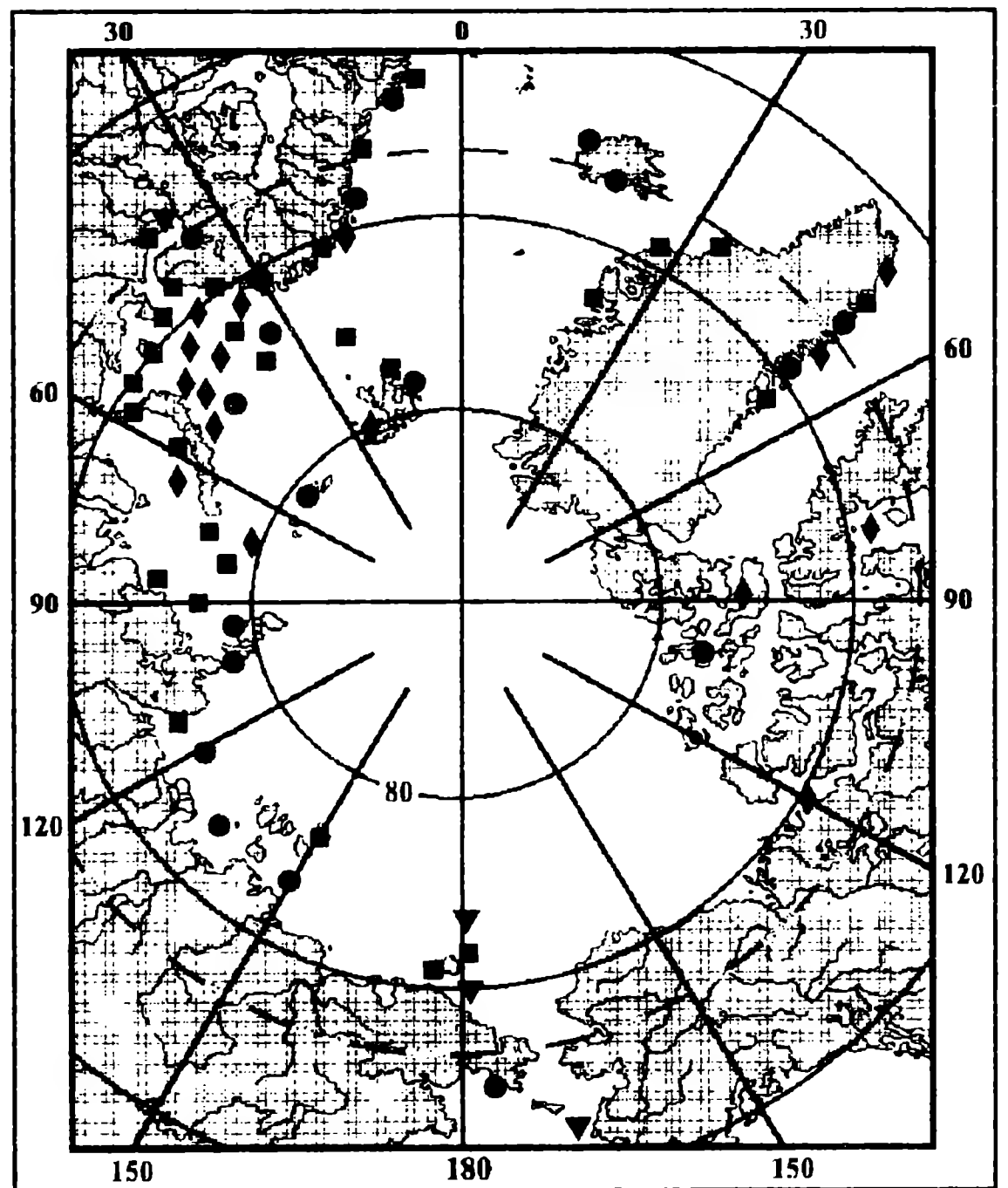


FIG. 113. Distribution of *Propebela (P.) harpularia* (Couthouy, 1838) (black circles), *P. (C.) fidicula* (Gould, 1858) (black triangles), *P. (C.) exarata* (Moeller, 1842) (black squares) and *P. (C.) viridula* (Moeller, 1842) (black rhombuses)

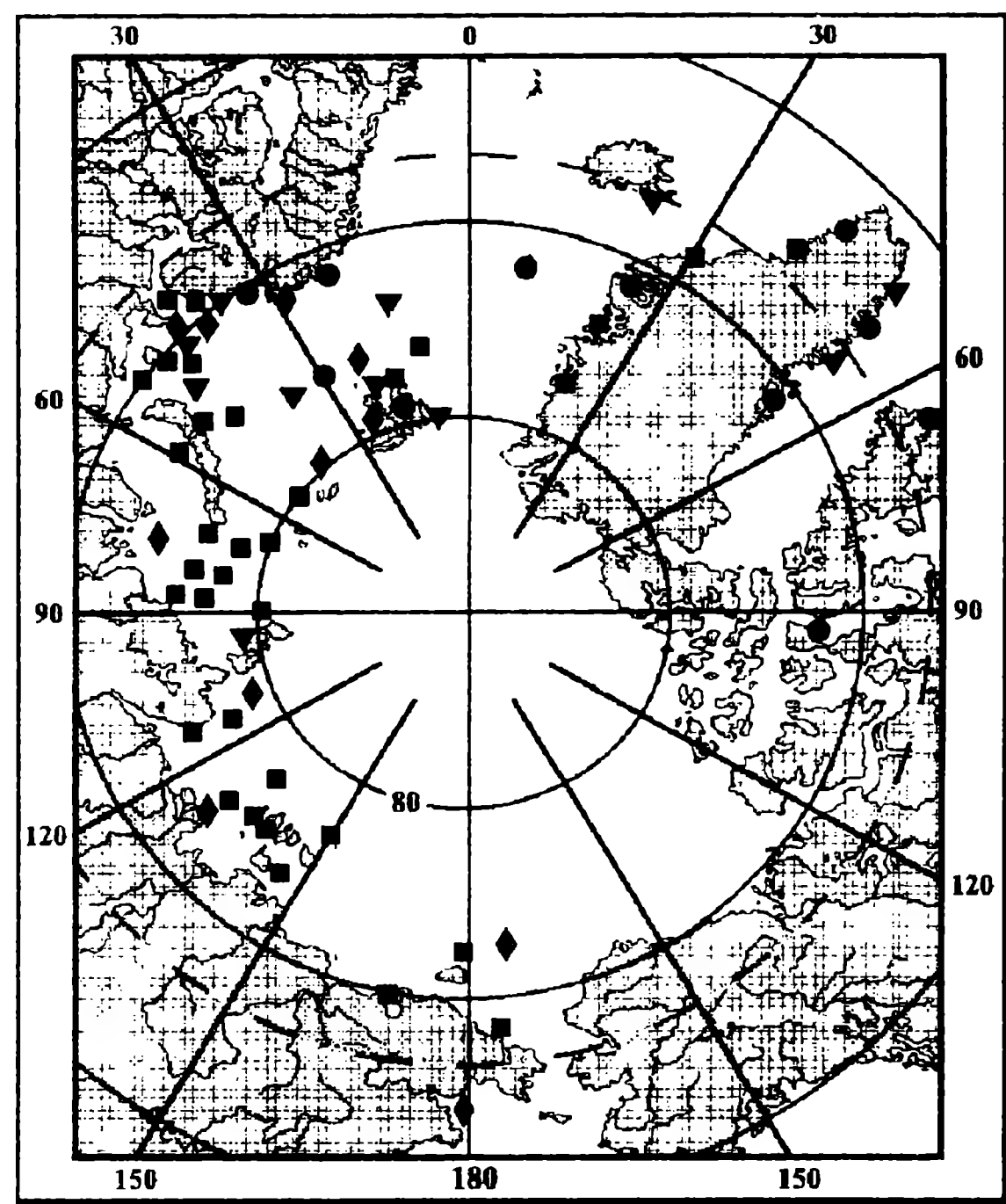


FIG. 114. Distribution of *Taranis amoena* (G.O. Sars, 1878) (black circles), *Boreoscala groenlandica* (Moeller, 1842) (black triangles), *Menestho truncatula* Odhner, 1915 (black squares) and *Liostomia eburnea* (Stimpson, 1851) (black rhombuses).

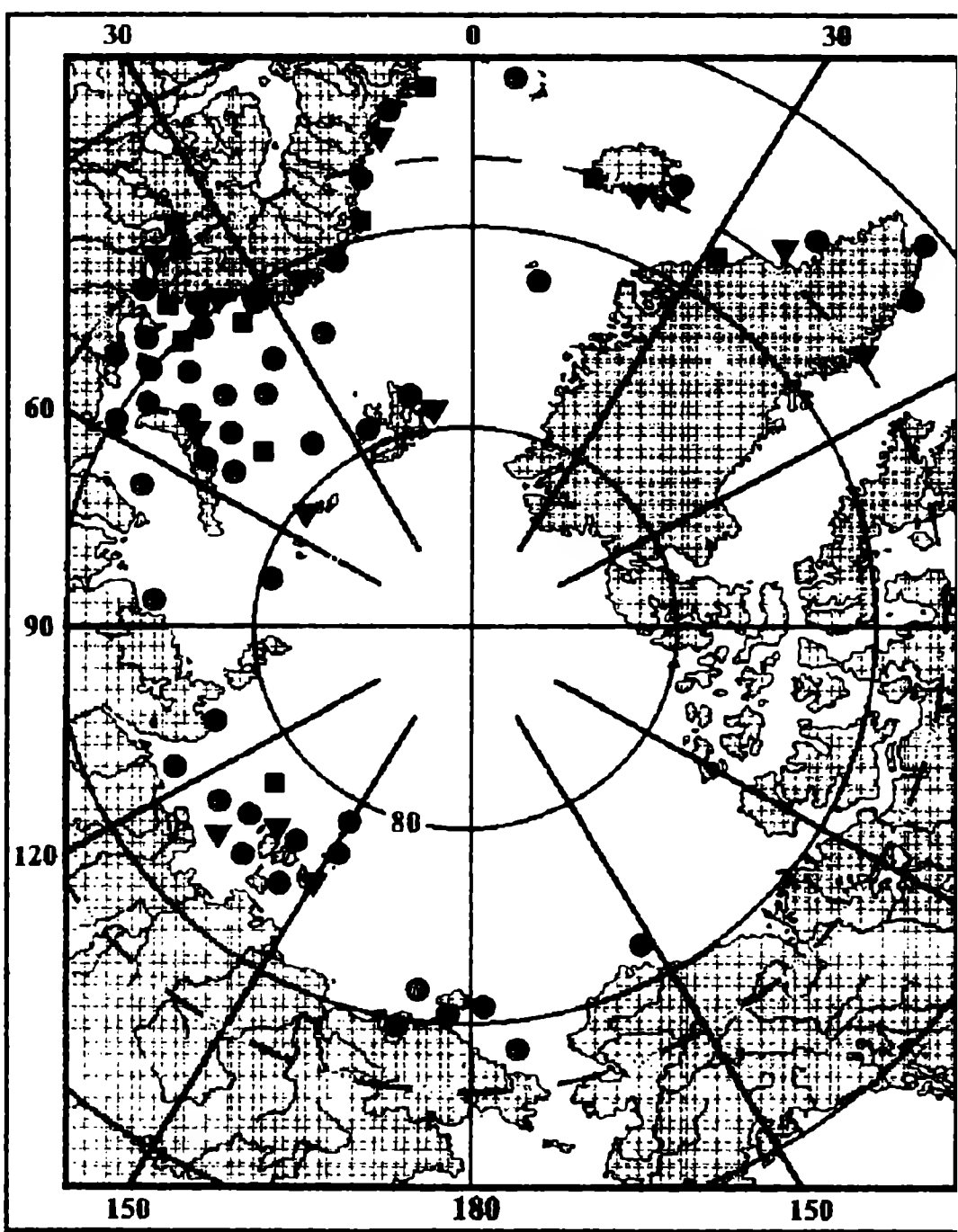


FIG. 116. Distribution of *Cylichna alba* (Brown, 1827) (circles), *Retusa pertenuis* (Mighels, 1843) (black triangles) and *Diaphana minuta* (Brown in Smith, 1839) (black squares).

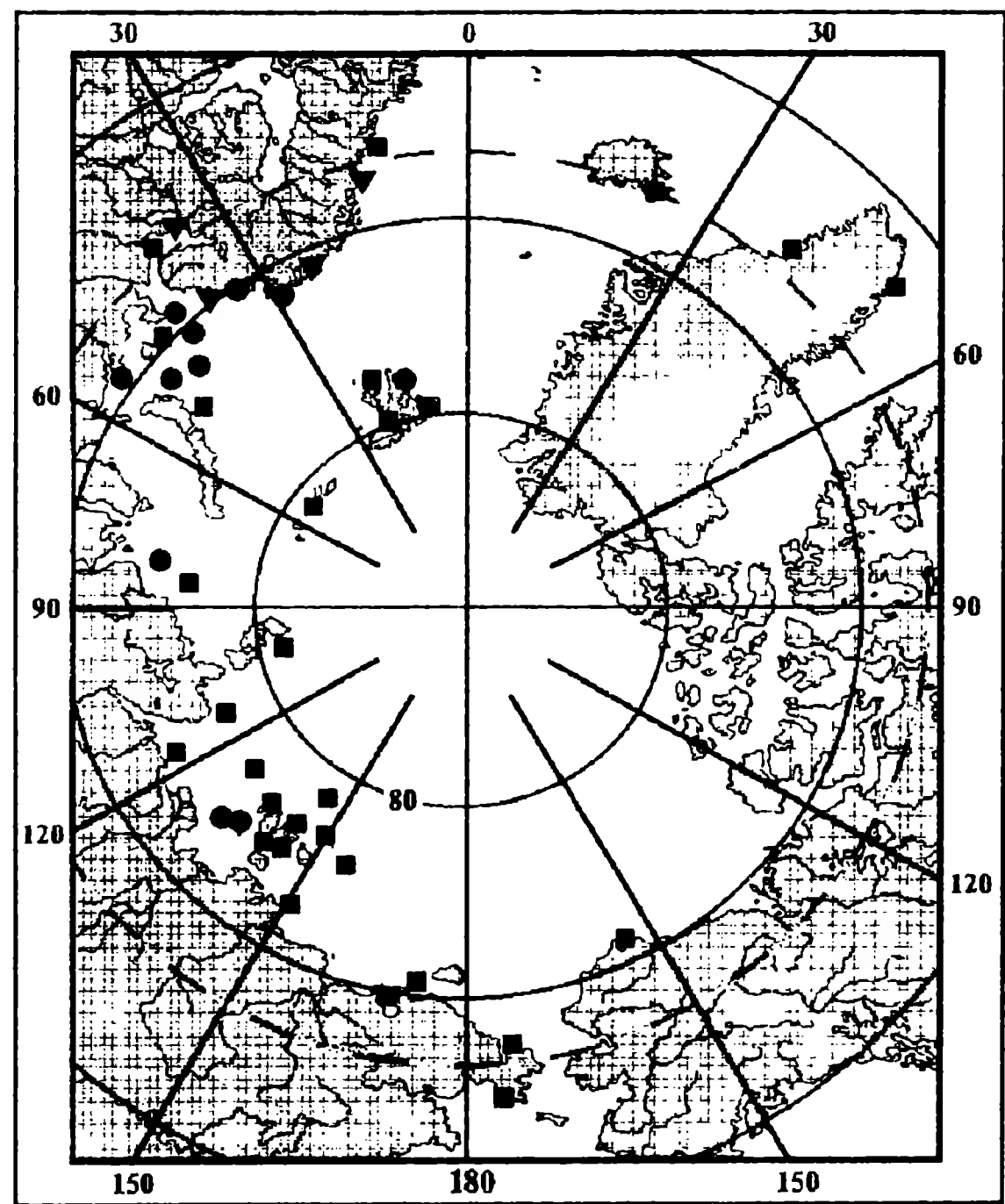


FIG. 115. Distribution of *Amaura candida* Moeller, 1842 (black circles), *Hemiactis glabra* G.O. Sars, 1878 (black triangles) and *Cylichna occulta* (Mighels, 1841) (black squares).

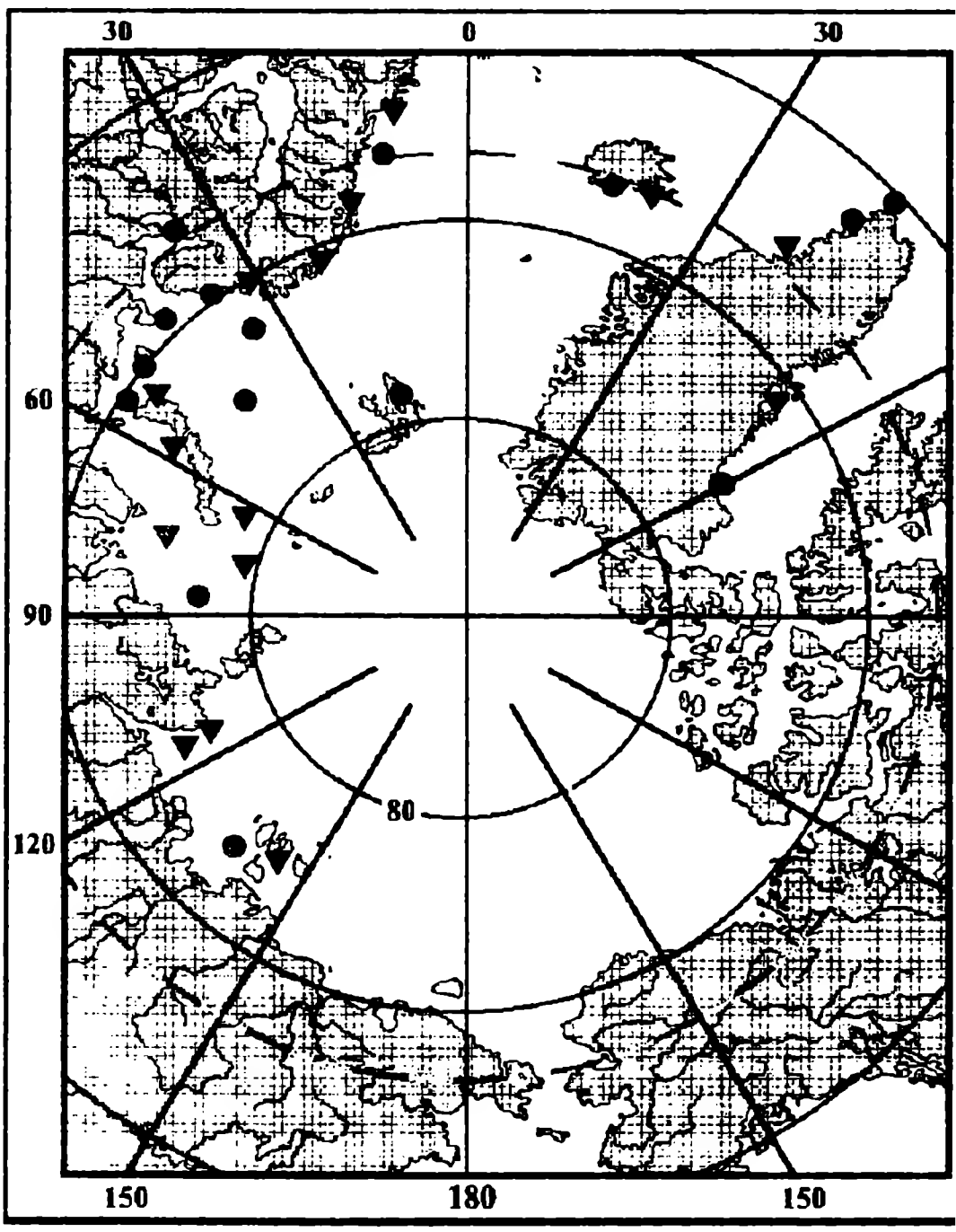


FIG. 117. Distribution of *Philine lima* (Brown, 1827) (circles) and *Ph. finmarchica* G.O. Sars, 1878 (black triangles).

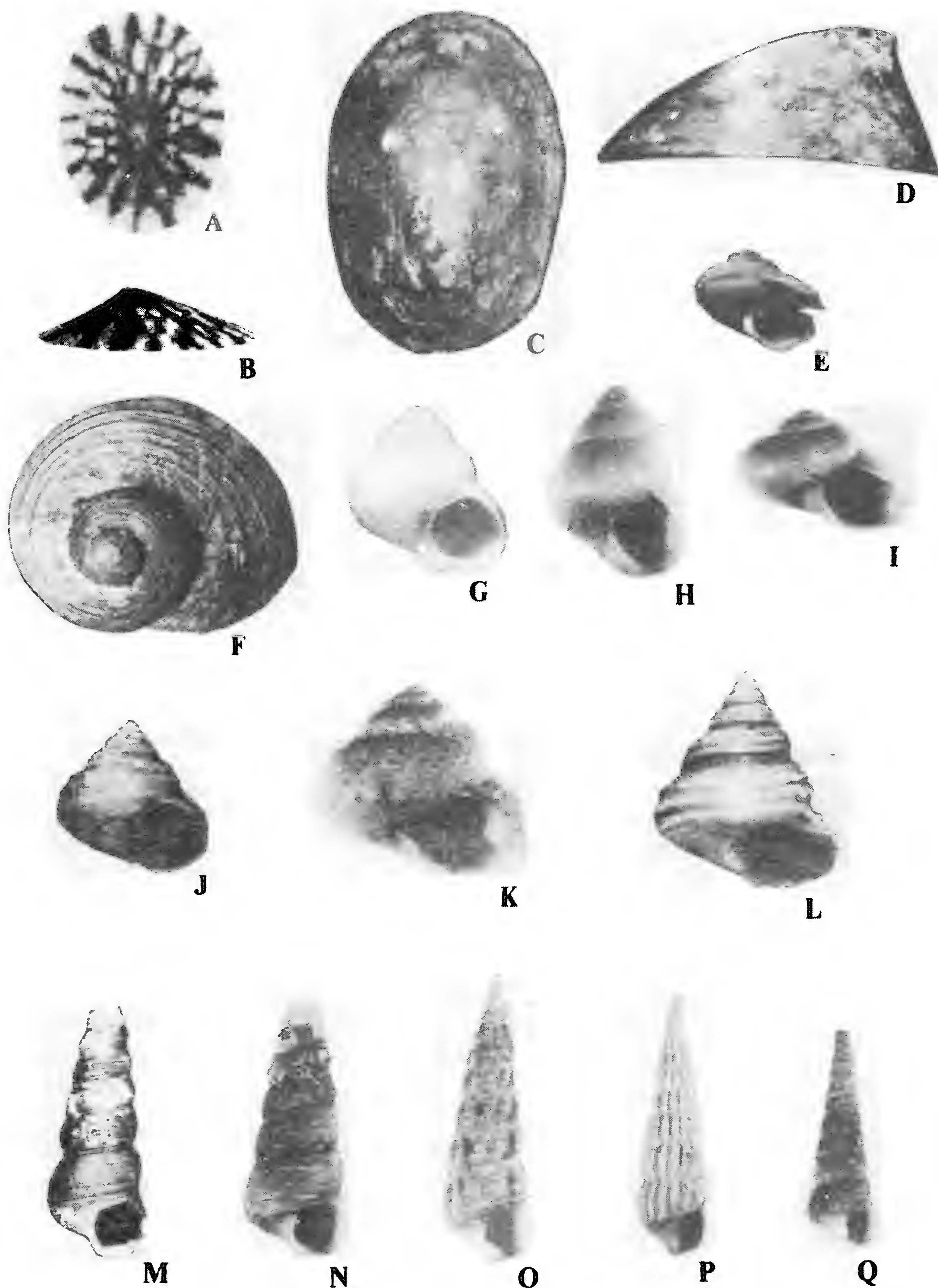


FIG. 118. A-B—*Testudinalia tessellata* (Mueller, 1776), White Sea, 24 mm; C-D—*Jothia fulva* (Mueller, 1776), 10.5 mm, no date; E—*Anatoma crispata* (Fleming, 1832), Moneron Is., 1.7 mm; F—*Margarites vorticifera* (Dall, 1875), Bering Sea, 9 mm; G—*M. vahllei* (Moeller, 1842) Moneron Is., 4 mm; H—*M. frigida* Dall, 1919, 9 mm, no date; I—*M. groenlandicus umbilicalis* (Broderip et Sowerby, 1829), White Sea, 6.5 mm; J—*M. costalis* (Gould, 1841), White Sea, 12 mm; K—*Gibbula tumida* (Montagu, 1803), Barents Sea, 7.5 mm; L—*Calliostoma occidentale* (Mighels et Adams, 1842), Barents Sea, 14 mm; M—*Tachyrhynchus erosus* (Couthouy, 1838), Bering Sea, 20 mm; N—*T. spitzbergensis* Golikov, 1986, 16.9 mm, no date; O—*T. reticulatus* (Mighels et Adams, 1842), Norway, 13 mm; P—*Laskeya arctica* (Moerch, 1857), 9.8 mm, no date; Q—*Cerithiella metula* (Loven, 1846), Barents Sea, 7 mm.

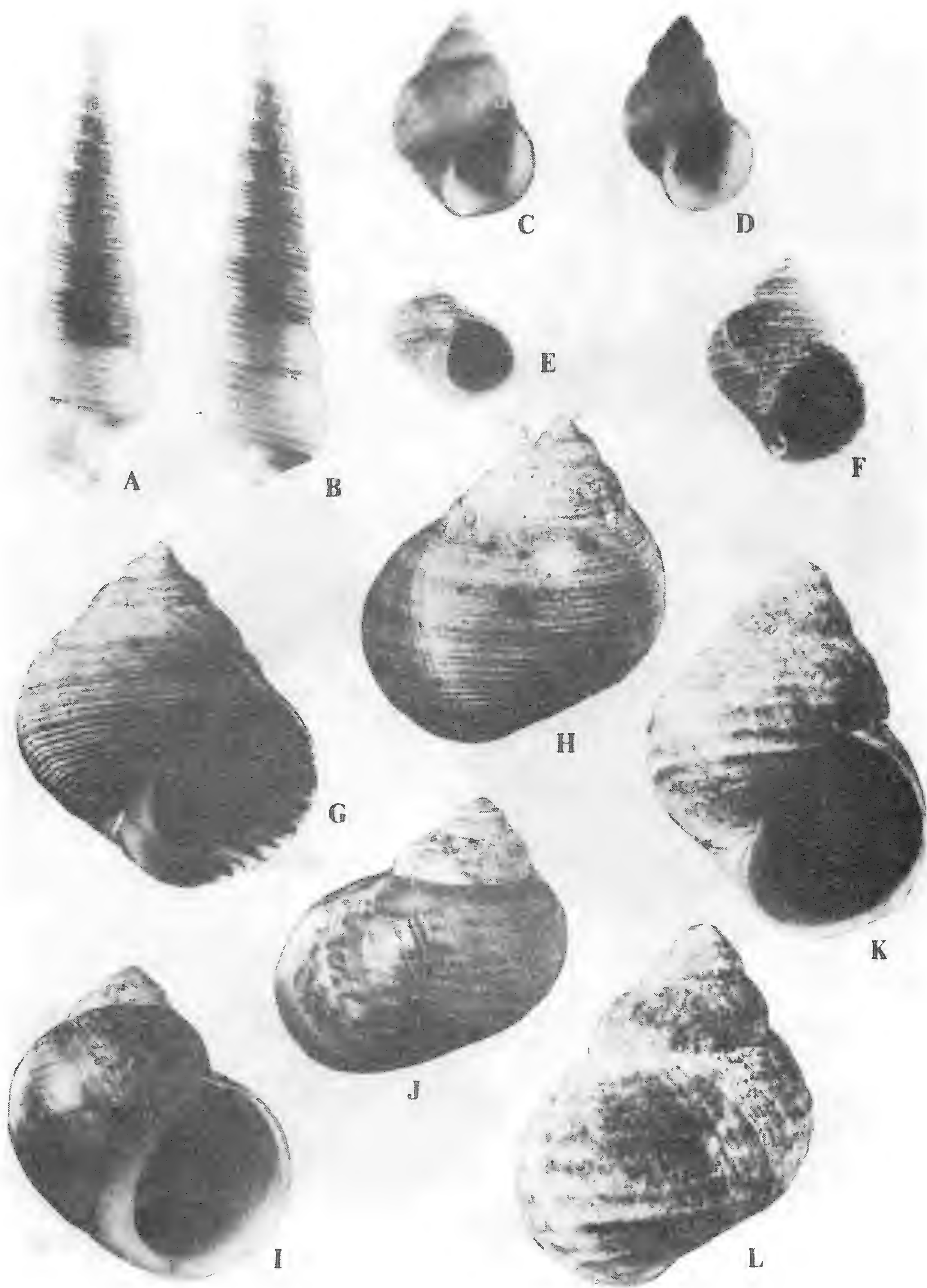


FIG. 119. A-B—*Laiocochlis granosa* (Wood, 1848), Barents Sea, 26 mm; C—*Epheria crassior* (Montagu, 1803) 13.5 mm, no date; D—*E. vineta* (Montagu, 1803), White Sea, 8 mm; E—*Littorina* (*N.*) *fabalis* (Turton, 1825), England, 6 mm; F—*L. (N.) jugosa* (Montagu, 1803), White Sea, 8 mm; G-H—*L. (L.) littorea* (L., 1758), White Sea, 24 mm; I-J—*L. (N.) obtusata* (L., 1758), Barents Sea, 11 mm; K-L—*L. (V.) saxatilis* (Olivi, 1792) White Sea, 9.9 mm.



FIG. 120. A—*Frigidoalvania janmayeni* (Friele, 1878), White Sea, 4.8 mm; B—*Frigidoalvania cruenta* (Odhner, 1915), Norwegian Sea, 4.15 mm.

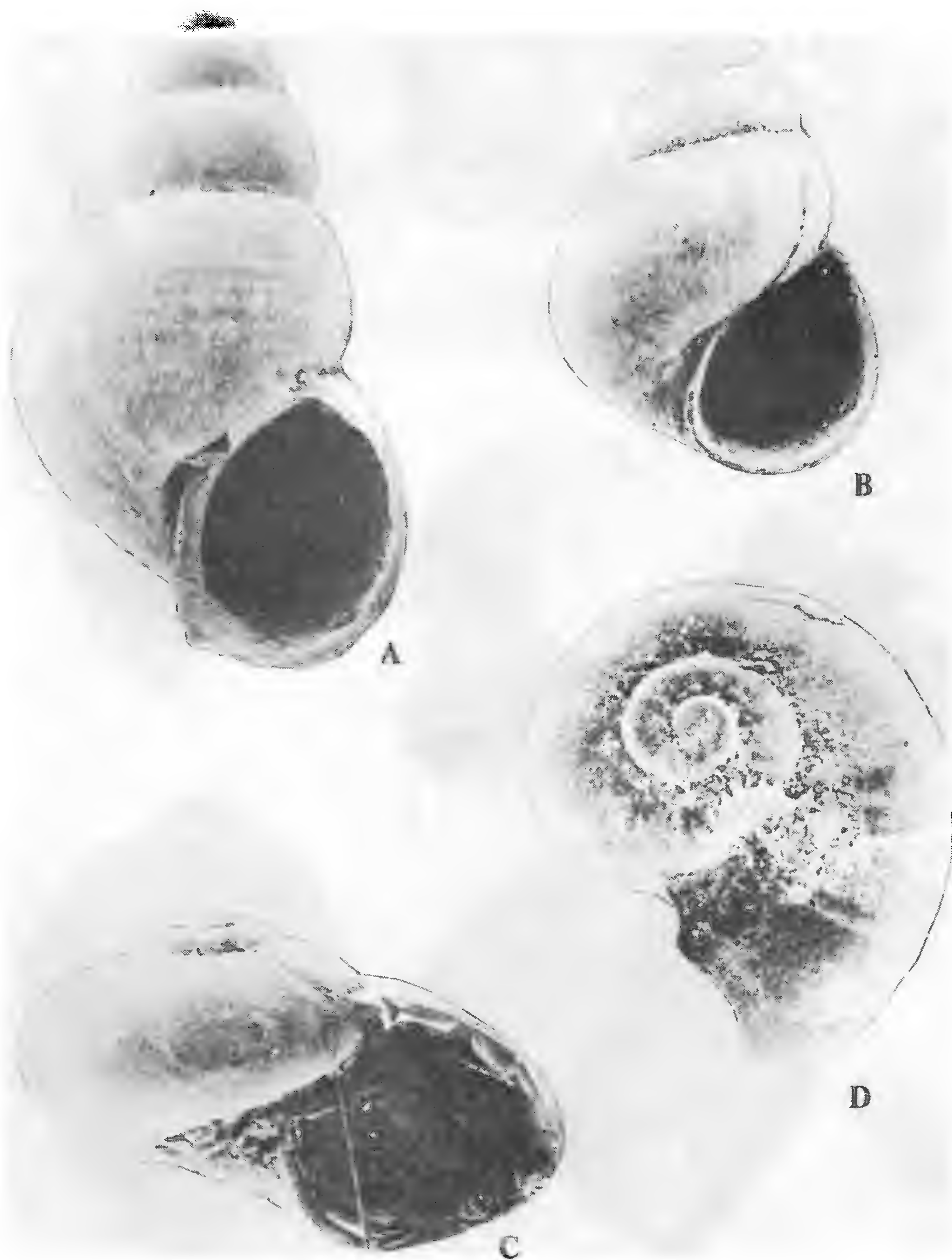


FIG. 121. A—*Onoba castanea* (Moeller, 1842), Barents Sea, 3.5 mm; B—*Setia latior* (Mighels et A. Adams, 1842), White Sea, 2.4 mm; C-D—*Skeneopsis planorbis* (Fabricius, 1780), White Sea, 0.8 mm.

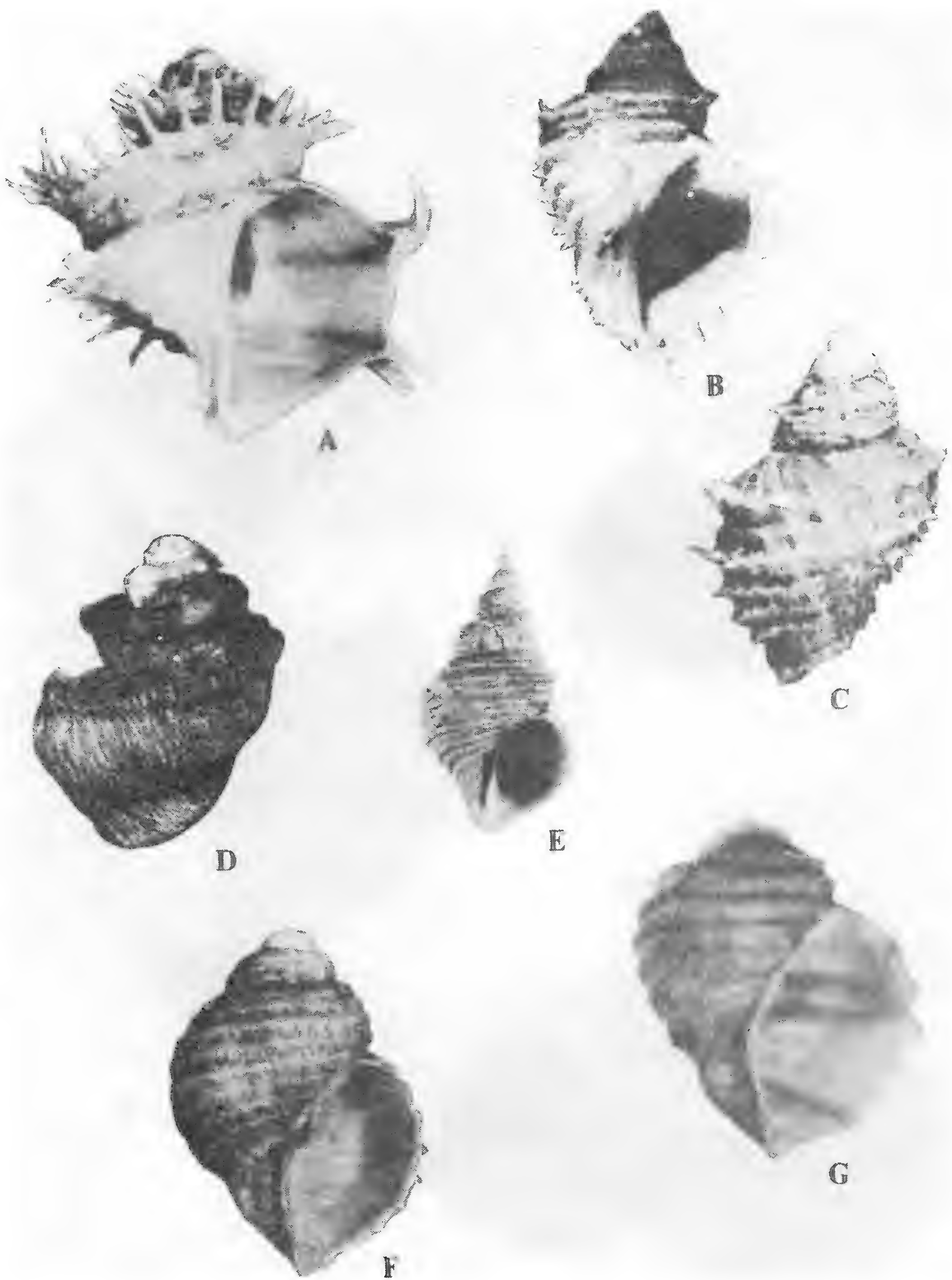


FIG. 122. A—*Trichotropis bicarinata* (Sowerby, 1825), Bering Sea, 34 mm; B-C—*Ariadnaria borealis* (Broderip et Sowerby, 1829), White Sea, at depth of 15 m, 22 mm; D—*Iphinoe coronata* (Gould, 1860), Bering Sea, 46 mm; E—*Ariadnaria conica* (Moeller, 1842), Barents Sea, 12.5 mm; F—*Iphinoe solida* (Aurivillius, 1885), Northern Kurile Islands, 28 mm; G—*Iphinoe kroyeri* (Philippi, 1849), Okhotsk Sea, 30 mm.

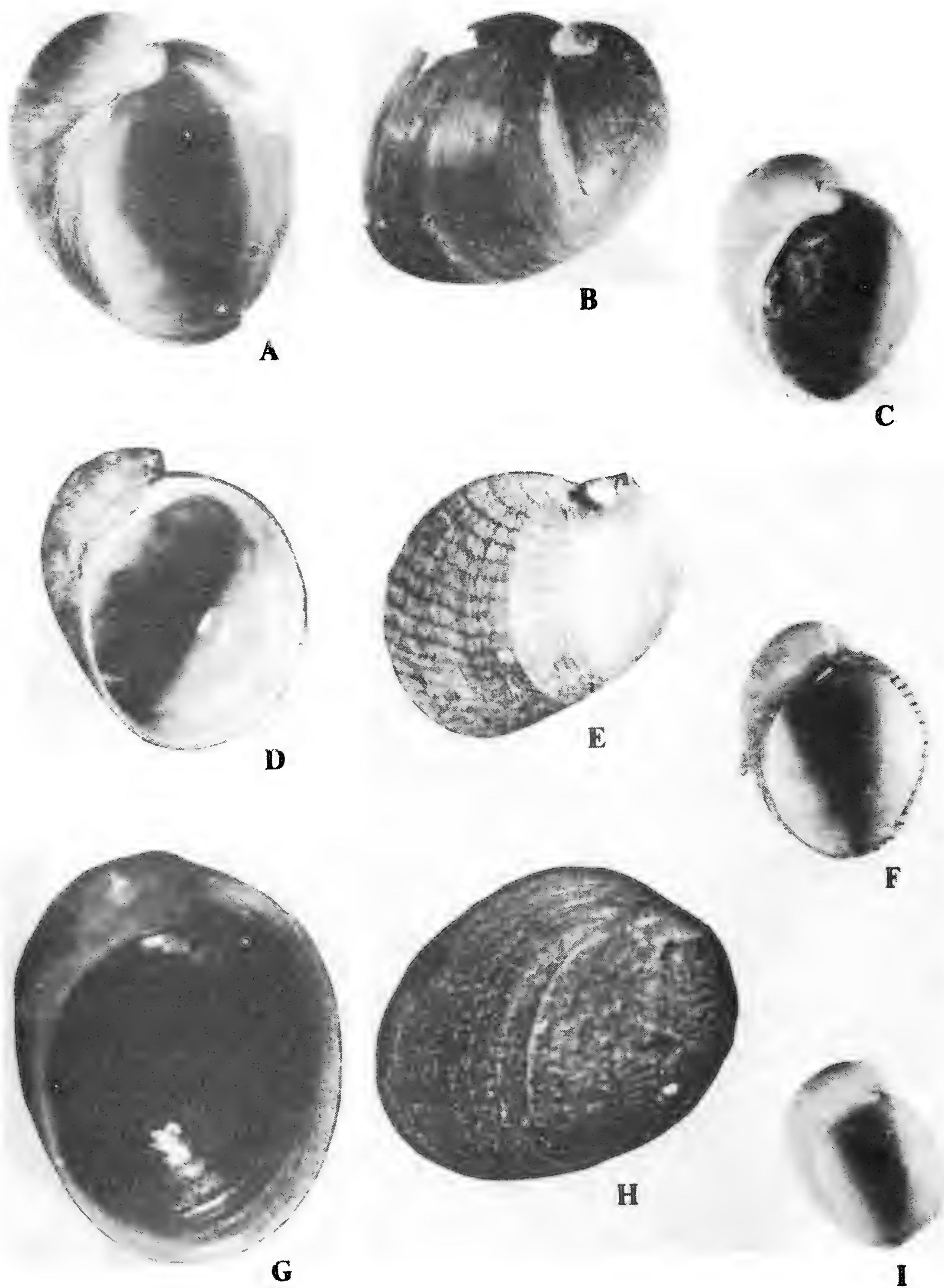


FIG. 123. A-B—*Limneria undata* (Brown, 1838), Okhotsk Sea, at depth of 127 m, 16 mm; C—*L. insculpta* (Odhner, 1913), 74°59'N, 23°57'E, at depth of 140 m, 13.9 mm; D-E—*Velutina velutina* (Mueller, 1776), Barents Sea, 18 mm; F—*V. schneideri* Friele, 1886, 70°25'N, 48°00'E, at depth of 110 m, 10 mm; G-H—*Velutella plicatilis* (Mueller, 1776), Bering Sea, 26 mm; I—*Marsenina glabra* (Couthouy, 1838), Kola Bay, 8 mm.

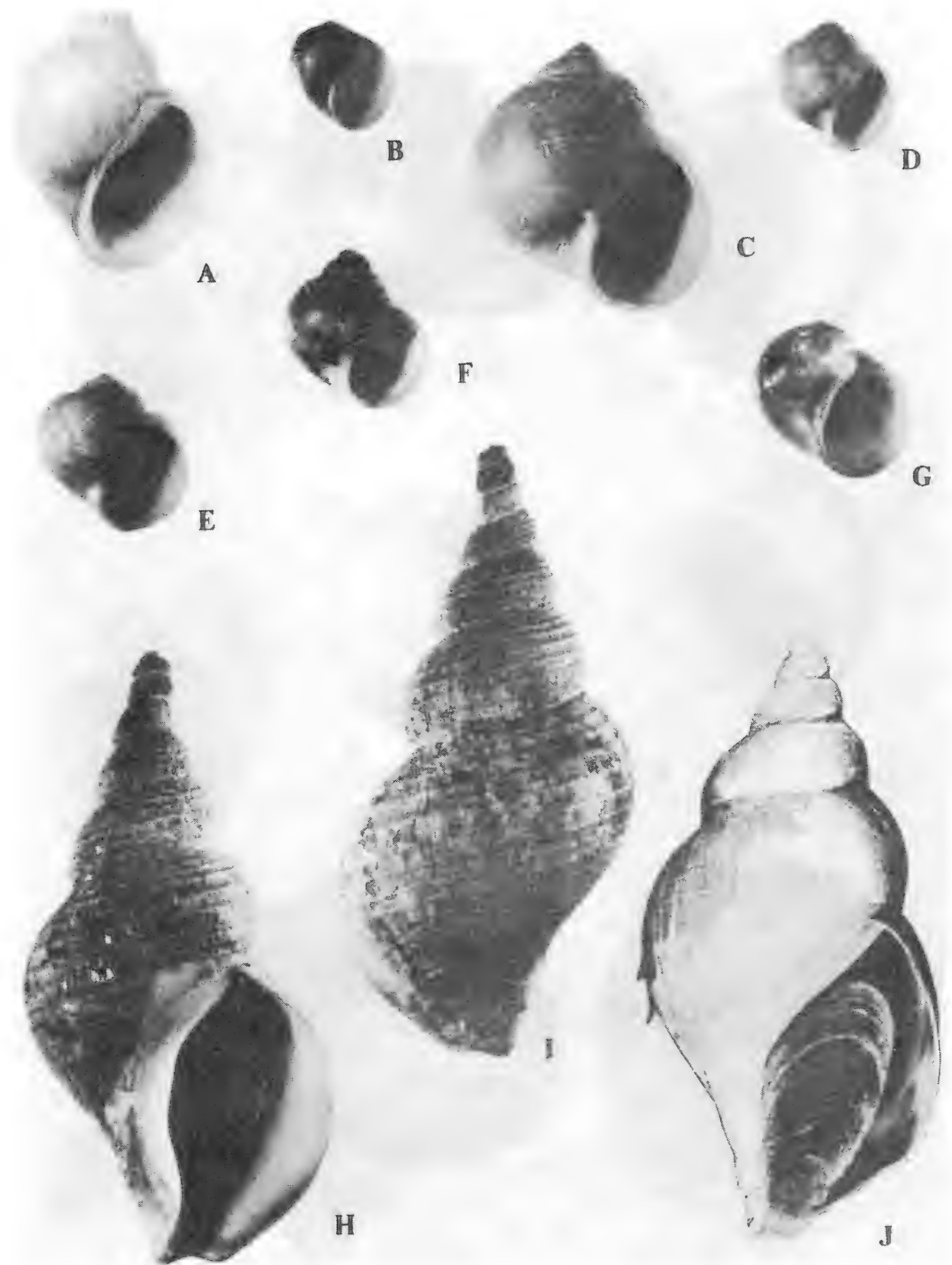


FIG. 124. A—*Amauropsis islandica* (Mueller, 1776), Kara Sea, 43.4 mm; B—*Bulbus smithi* Brown, 1839, Barents Sea, 17.9 mm; C—*Lunatia pallida* (Broderip et Sowerby, 1829), off Spitzbergen Island, 44.6 mm; D—*Lunatia tenustriata* (Dautzenberg et Fischer, 1911), Barents Sea, 21.7 mm; E—*Cryptonatica clausa* (Broderip et Sowerby, 1829), White Sea, 26.0 mm; F—*C. septentrionalis* (Mueller, 1842), off Spitzbergen Island, 26.1 mm; G—*C. bathybia* (Friele, 1879), East Siberian Sea, at depth about 863 m, 10 mm; H-I—*Beringius ossiani* (Friele, 1879), 69°34.5'N, 36°20.5'E, at depth of 203 m, 63 mm; J—*B. turtoni* (Bean, 1834), Barents Sea, at depth of 196-198 m, 109 mm.



FIG. 125. A—*Beringion stimpsoni* (Gould, 1860), 57°42'N, 164°40'W, at depth of 48 m, 75.6 mm; B-C— *B. beringii* (Middendorff, 1849), Bering Sea, 110 mm.

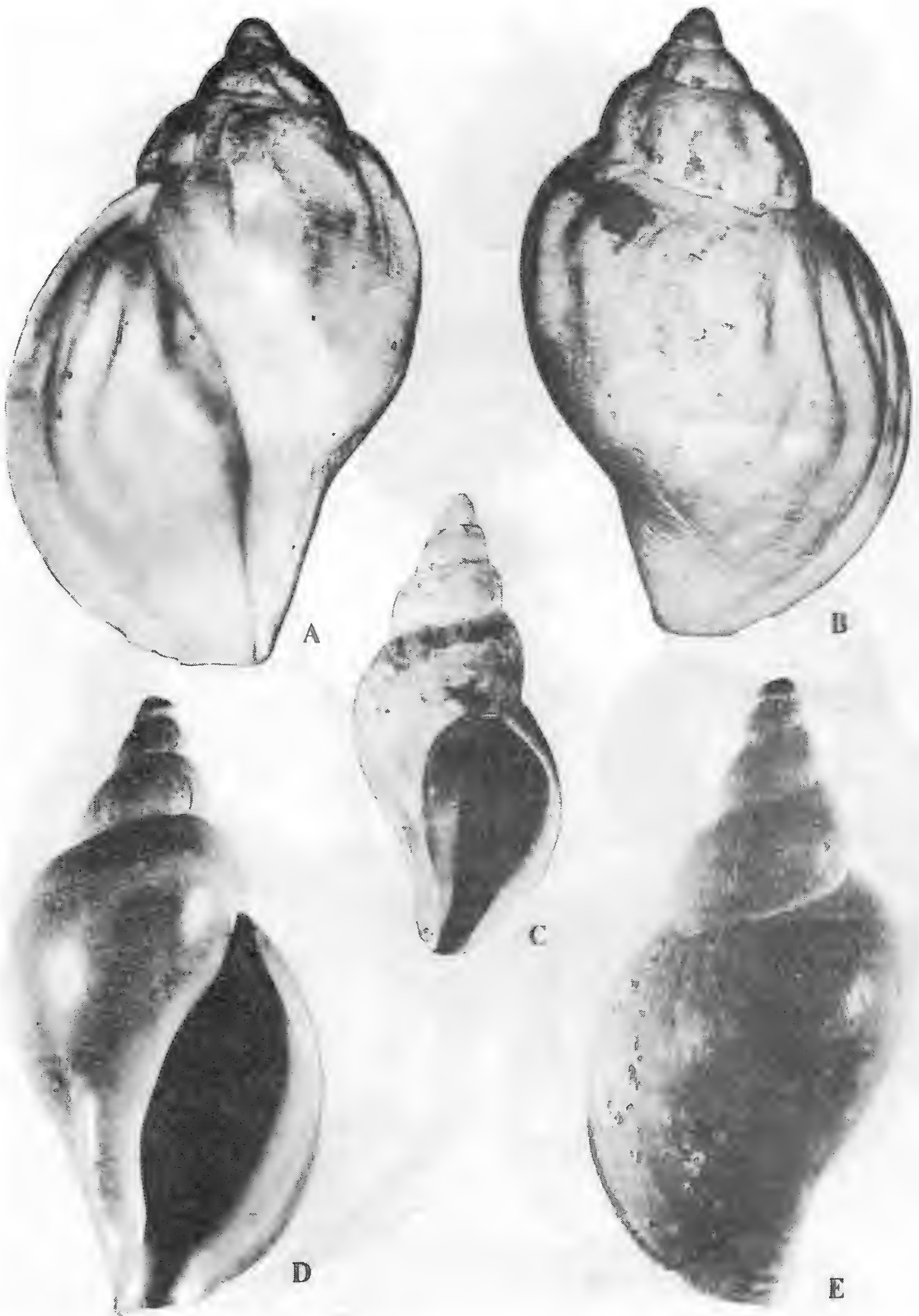


FIG. 126. A-B—*Pyrulofusus deformis* (Reeve, 1847), Bering Sea, 130 mm; C—*Habevolutopsius hirasei* (Pilsbry, 1907), Bering Sea, 64 mm; D-E—*Volutopsius norwegicus* (Gmelin, 1790), Norwegian Sea, 77 mm.

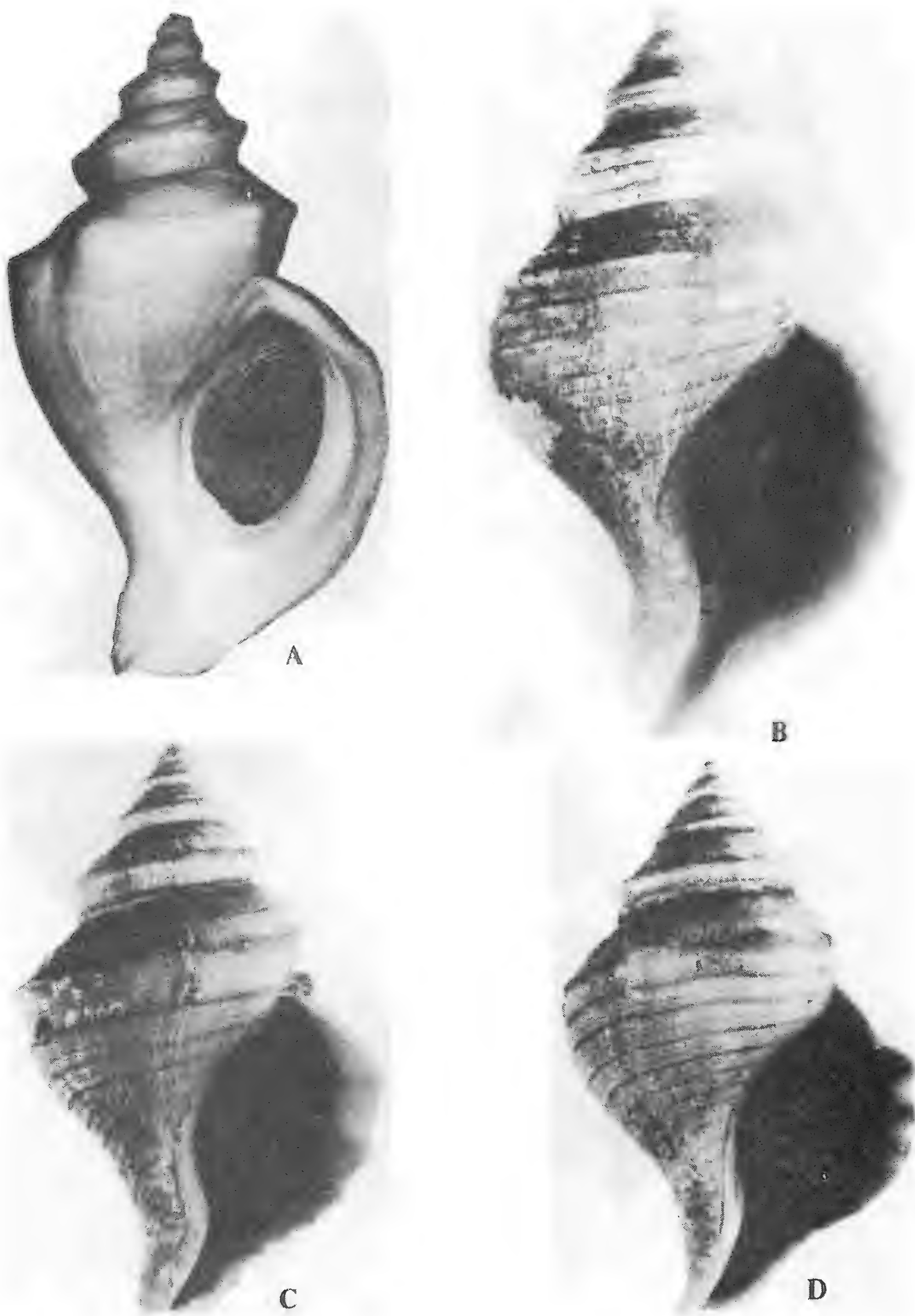


FIG. 127 A—*Neptunea ventricosa* (Gmelin, 1789), Bering Sea, at depth of 72 m, 117 mm; B—*N. densilirata* Brogger, 1901, Newfoundland Bank, 77.5 mm; C—*N. communis communis* (Middendorff, 1849), Bering Sea, 55 mm; D—*N. communis communis* (Middendorff, 1849), Bering Sea, 52 mm.



FIG. 128. A—*Neptunea despecta* (Linnaeus, 1758), Barents Sea, 79.5 mm; B-C—*N. despecta* (Linnaeus, 1758), Norwegian Sea, 63 mm; D—*N. lyrata lyrata* (Martyn, 1784), Bering Sea, 95 mm.



FIG. 129. A—*Neptunea beringiana* (Middendorff, 1848), Bering Sea, Olutor Bay, 112 mm; B—*N. amianta* (Dall, 1889), Bering Sea, at depth of 88 m, 118 mm; C-D—*Colus (Colus) islandicus* (Mohr, 1786), Newfoundland Bank, 74 mm

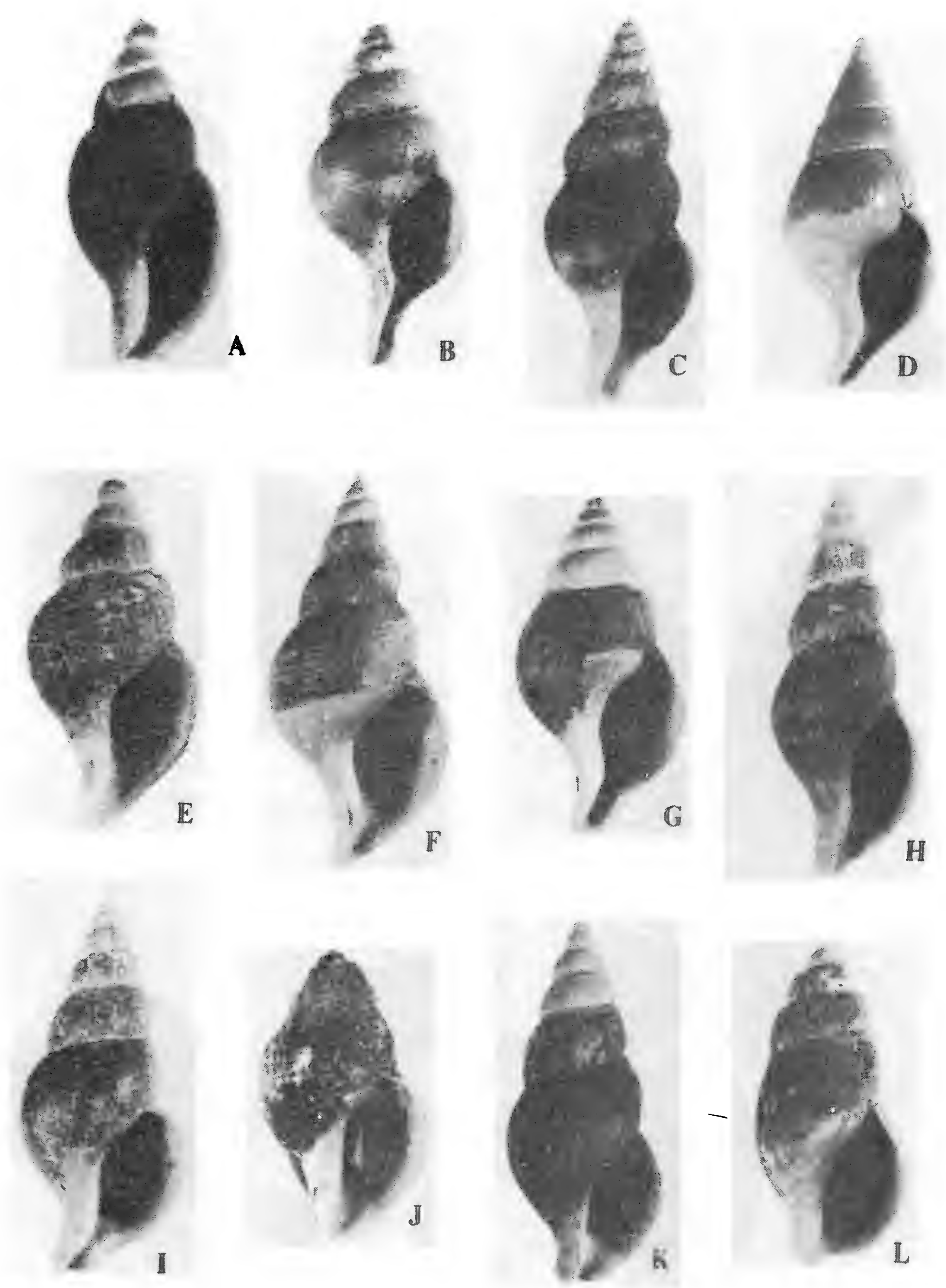


FIG. 130. A—*Colus* (*Limatofusus*) *pulcius* Dall, 1919, Chuckchee Sea, 22.5 mm; B—*C. (Colus) holboelli* (Moeller, 1842), Norwegian Sea, 40 mm; C—*C. (Plicifusus) latericeus* (Moeller, 1842), Barents Sea, 27.5 mm; D—*C. (Colus) glaber* (Verkruzen in Kobelt, 1876), Norwegian Sea, 47 mm; E—*C. (Colus) turgidulus* (Jeffreys, 1877), 80°23'N, 78°36'E, at depth of 114 m, 33.5 mm; F—*C. (Colus) pubescens* (Verrill, 1882), 47°N, 48°W, at depth of 160-180 m, 62 mm; G—*C. (Colus) sabini* (Gray, 1824), Norwegian Sea, 44.2 mm; H—*C. (Aulacofusus) brevicauda* (Deshayes, 1832), Bering Sea, 33 mm; I—*C. (Aulacofusus) esychus* (Dall, 1907), Bering Sea, 51.5 mm; J—*C. (Aulacofusus) roseus* Dall, 1877, Bering Sea, 18.5 mm; K—*C. (Anomalosipho) altus* (S. Wood, 1848), Bering Sea, 42 mm; L—*C. (Anomalosipho) conulus* (Aurivillius, 1885), East Siberian Sea, 38.6 mm.

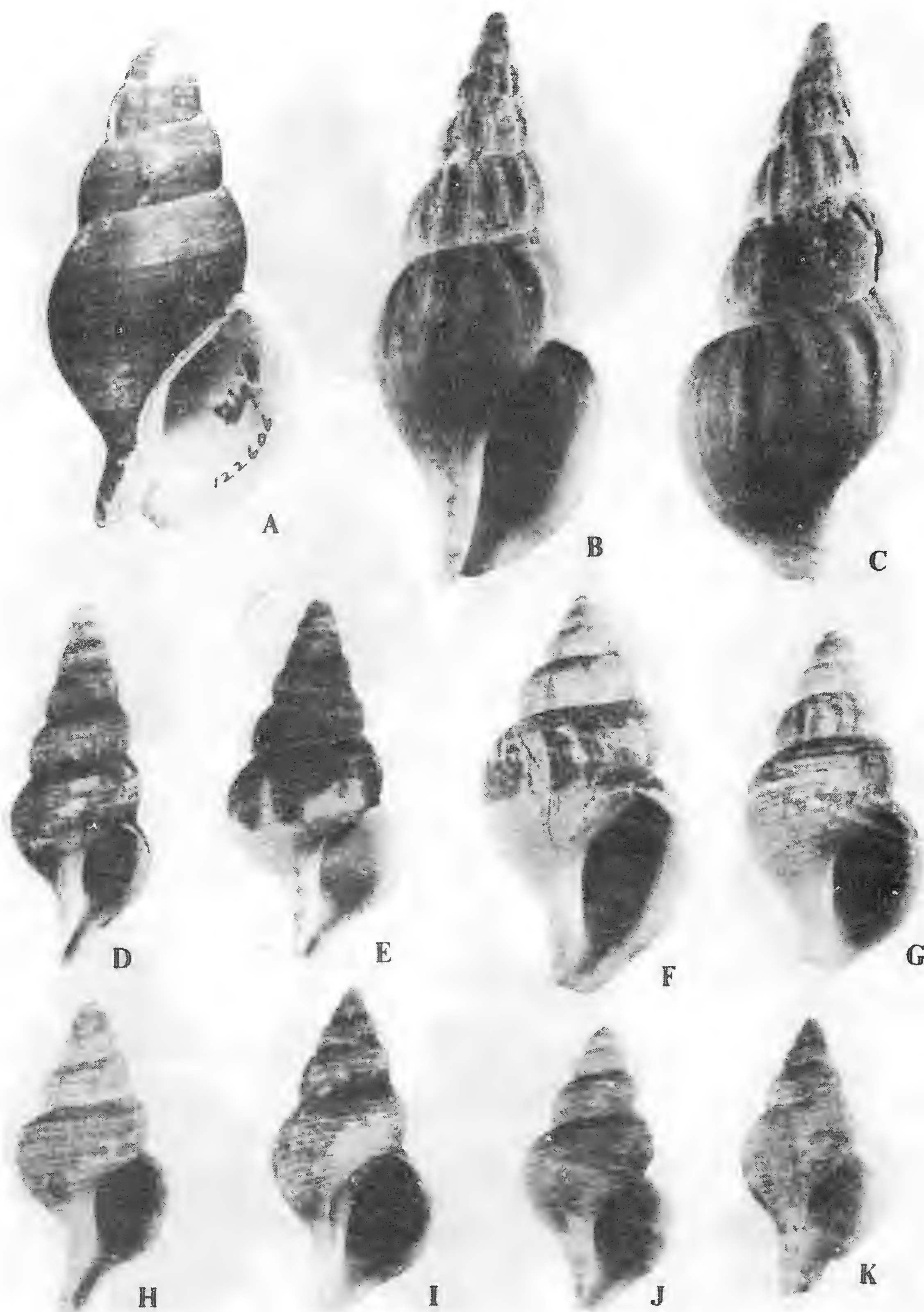


FIG. 131. A—*Colus (Latisipho) hypolispus* (Dall, 1891), holotype; B—C—*C. (Plicifusus) kroyeri* (Moeller, 1842), Bering Sea, 70 mm; D—*Turrisipho (Turrisipho) lachesis* (Morch, 1869), no date, 26 mm; E—*T. (Turrisipho) voeringi* Bouchet, Waren, 1985, 77°30'N, 103°E, at depth of 183 m, 29.8 mm; F—*T. (Siphonorbis) moebii* (Dunker et Matzger, 1874), 72°30'N, 23°30'E, at depth of 300 m, 49 mm; G—*T. (Siphonorbis) fenestratus* (Turton, 1834), 70°59'N, 30°21.8'E, at depth of 270 m, 25.5 mm; H—*T. (Turrisipho) dalli* (Friele, 1881), no date, 22 mm; I—*Mohnia (Mohnia) parva* (Verrill et Smith, 1882), no date, 26 mm; J—*M. (Tacita) danielsseni* (Friele, 1879), no date, 21 mm; K—*M. (Mohnia) mohni* (Friele, 1877), 81°32'N, 31°04'E, 21 mm.

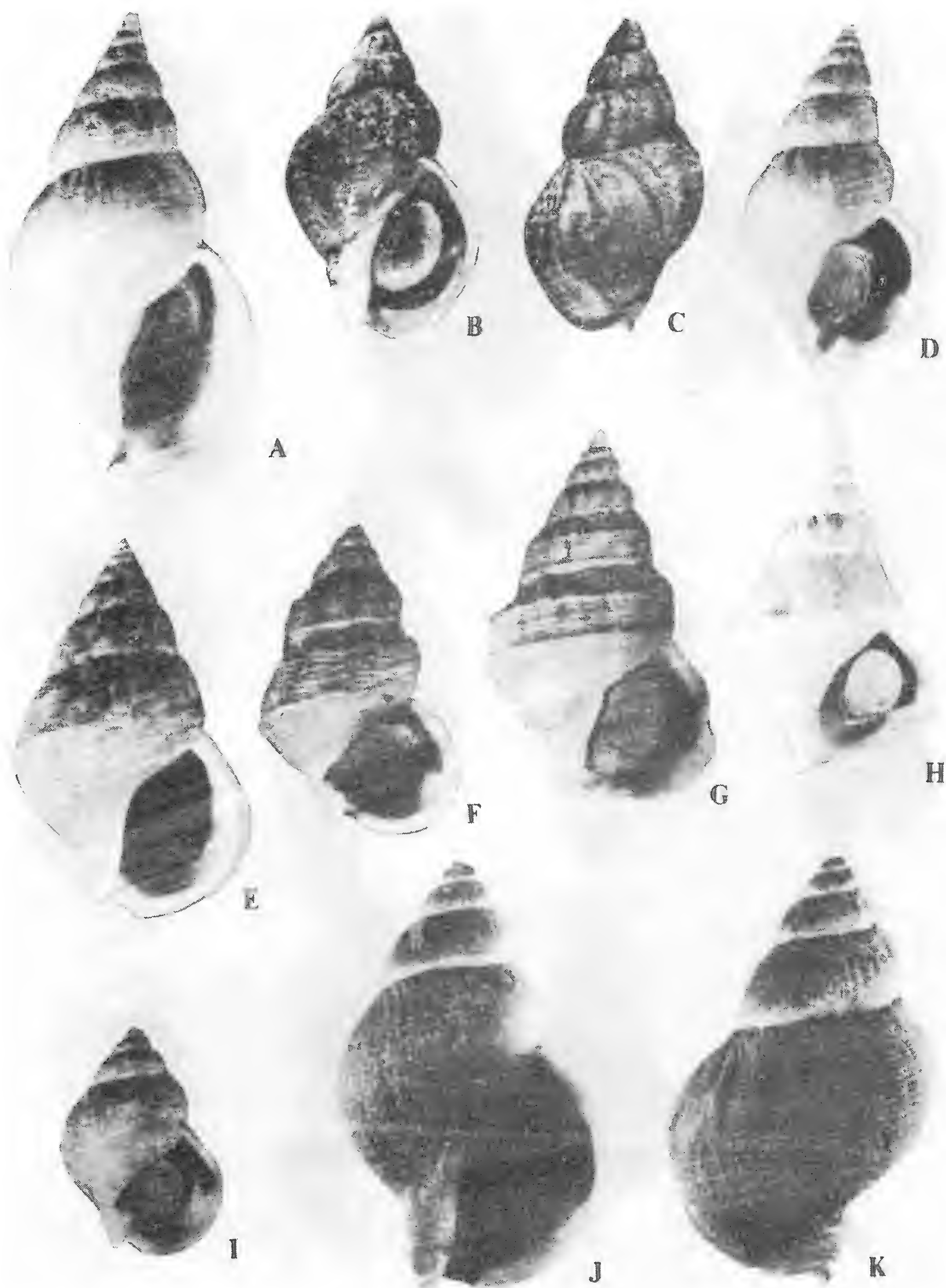


FIG. 132. A—*Buccinum undatum* L., 1758, no date; B-C— *Buccinum undatum* L., 1758, White Sea, 46 mm; D-G—*B. glaciale* L., 1761, no date; H—*B. angulosum* Gray, 1839, no date; I—*B. maltzani* Pfeiffer, 1886, no date; J-K—*B. maltzani* Pfeiffer, 1886, Barents Sea, 35.5 mm.

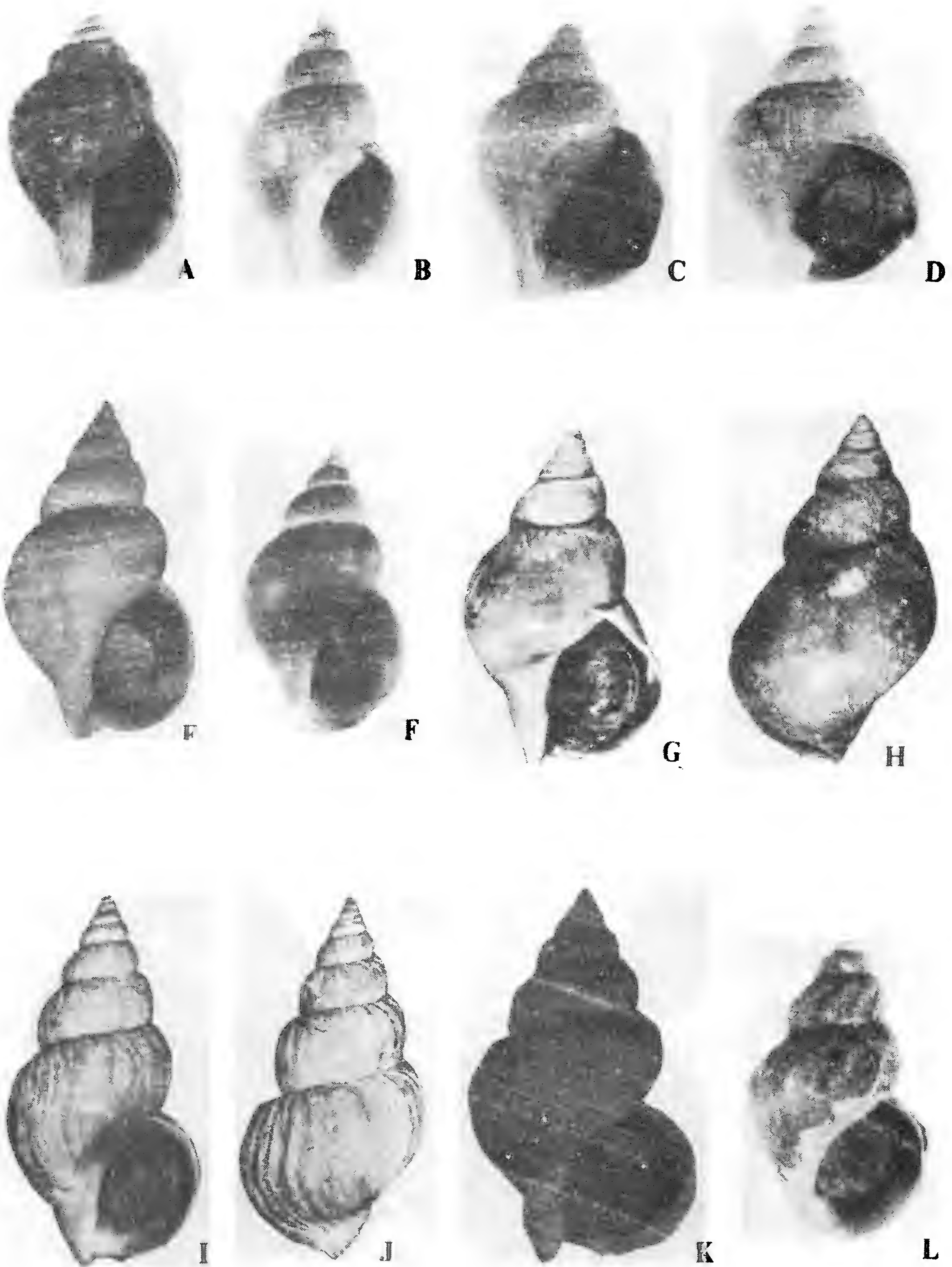


FIG. 133. A—*Buccinum ciliatum ciliatum* (Fabricius, 1780), 69°00'N, 180°00'E, at depth of 40 m, 17.3 mm; B—*B. ciliatum sericatum* Reeve, 1845, Bring Strait, 17.5 mm; C—*B. micropoma* Jensen in Thorson, 1944, 69°35.7'N, 35°24.0'E, depth of 215 m, 17.8 mm; D—*B. physematum* Dall, 1919, 76°06'N, 126°24.5'W, depth of 49 m, 16.5 mm; E—*B. nivale* Friele, 1882, no date; F—*B. hydrophanum* Hancock, 1846, no date, 37 mm; G-H—*B. finmarchianum* Verkrusen, 1875 Barents Sea, 47 mm; I-J—*B. elatior* (Middendorff, 1849), White Sea, 37 mm; K—*B. elatior* (Middendorff, 1849), no date; L—*B. polium obsoletum* Golikov, 1980, holotype, 46 mm.

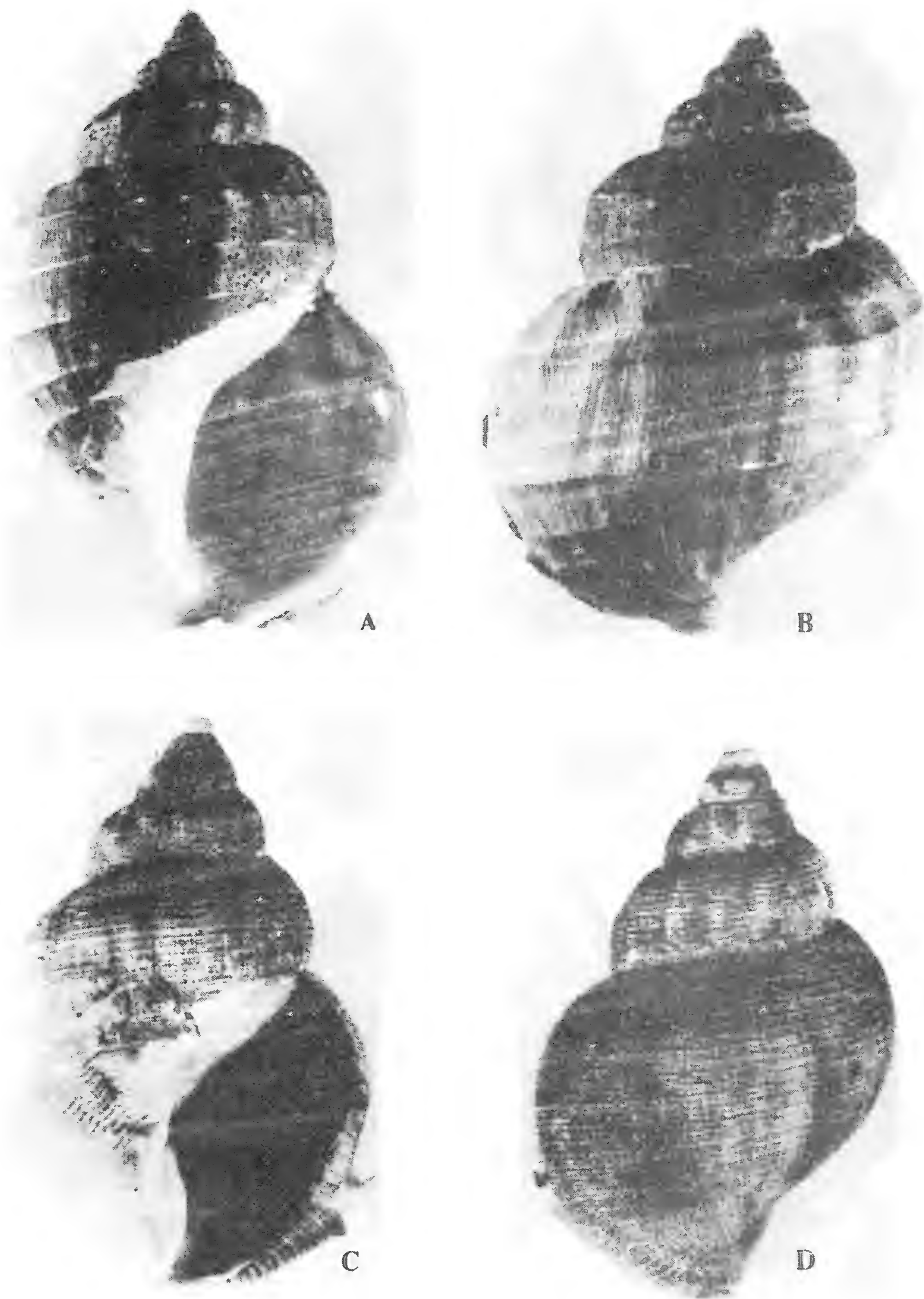


FIG. 134. A-B—*Buccinum polare* Gray, 1839, Okhotsk Sea, Onkotan Island, 57.5 mm; C-D—*B. coronatum* Golikov, 1980, holotype, Newfoundland Bank, 42 mm.

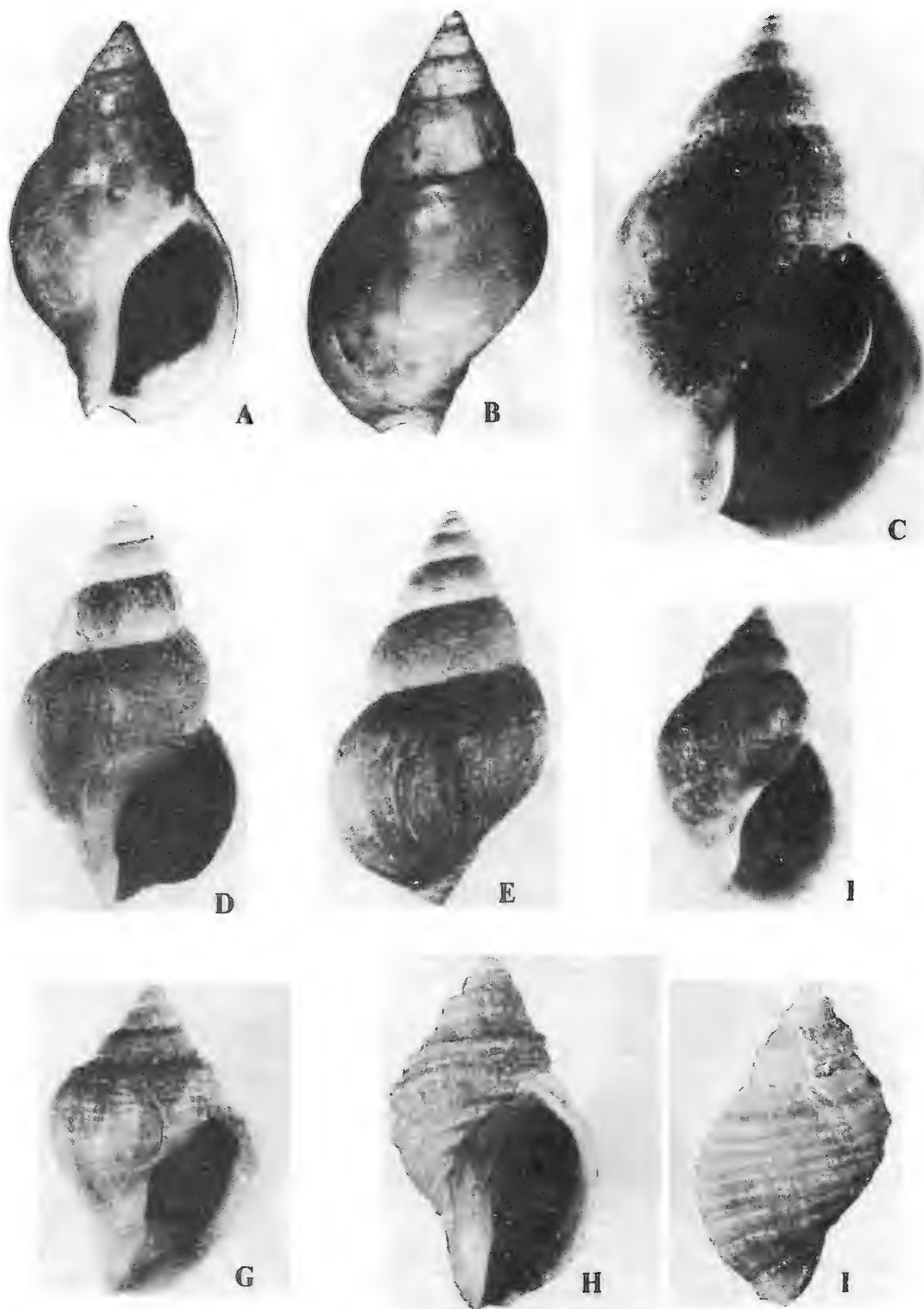


FIG. 135. A-B—*Buccinum fragile* Verkrutzen in G.O.Sars, 1878, Barents Sea, 50 mm; C—*B. cyaneum* Bruguiere, 1789-1792, Barents Sea, 23 mm; D-E—*B. belcheri* Reeve, 1855, 71°00'N, 47°00'E, 54 mm; F—*B. cyaneum* Bruguiere, 1789-1792, White Sea, 23.2 mm; G—*B. fringillum* Dall, 1877, no date, 14.6 mm; H-I—*Nucella lapillus* (Linne, 1767), Barents Sea, Ura-guba Bay, 26 mm.

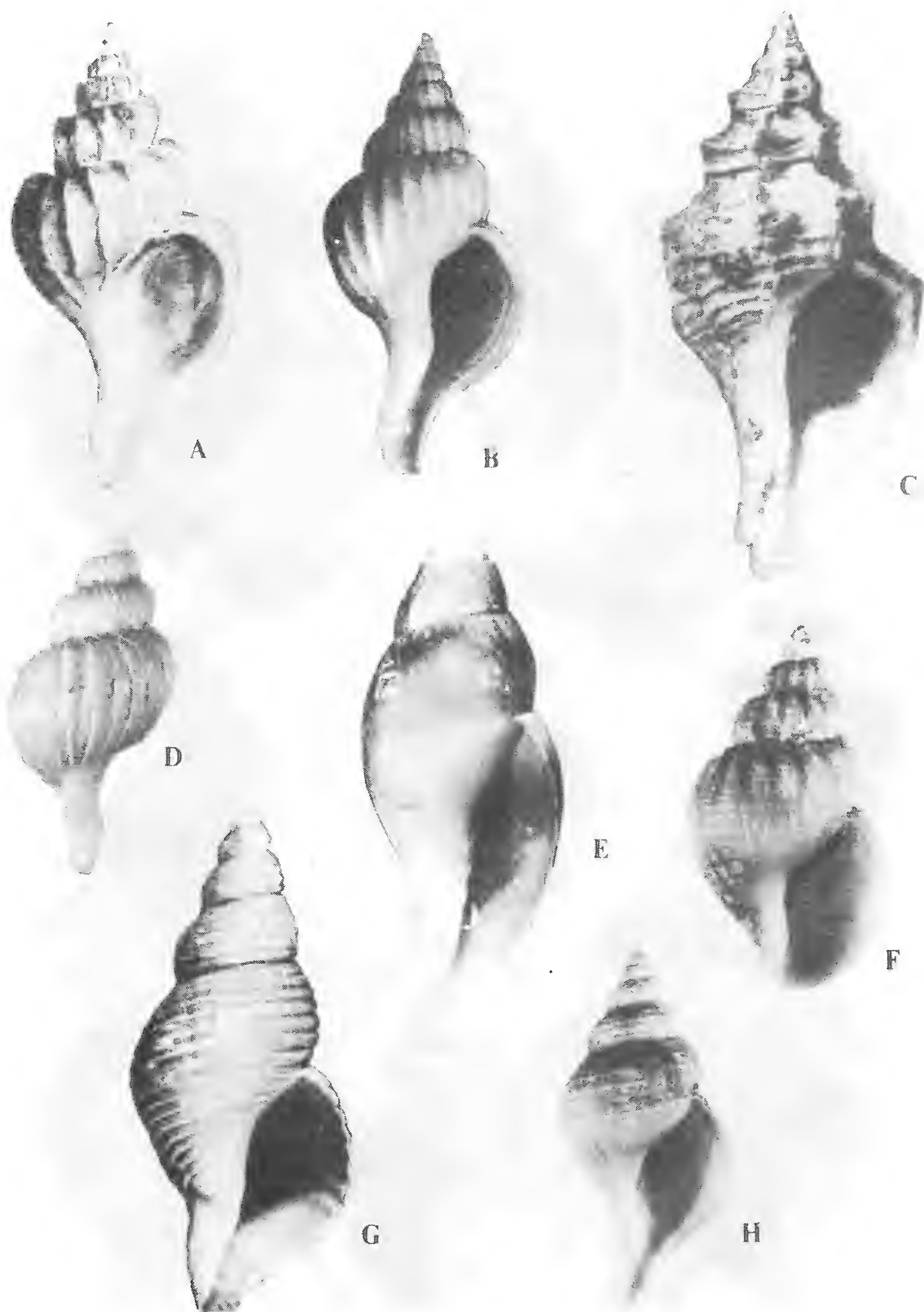


FIG. 136. A—*Boreotrophon clathratus* (Linne, 1767), White Sea, Kandalaksha Bay, depth 10 m. 19 mm; B—*B. pacificus* (Dall, 1902), Japan Sea, off Moneron Island, 28 mm; C—*Trophonopsis fabricii* (Beck in Moeller, 1842), no date; D—*Boreotrophon truncatus* (Stroem, 1767), 70°56'N, 159°04'E, at depth of 7 m, 32.2 mm; E—*Volutomitra groenlandica* (Moeller, 1842), Okhotsk Sea, 23.8 mm; F—*Admete viridula* (Fabricius, 1780), Bering Sea, 26.1 mm; G—*Ptychatractus occidentalis* Stearns, 1873, Bering Sea, 25 mm; H—*Troschelia berniciensis* (King, 1846), no date, 55 mm.

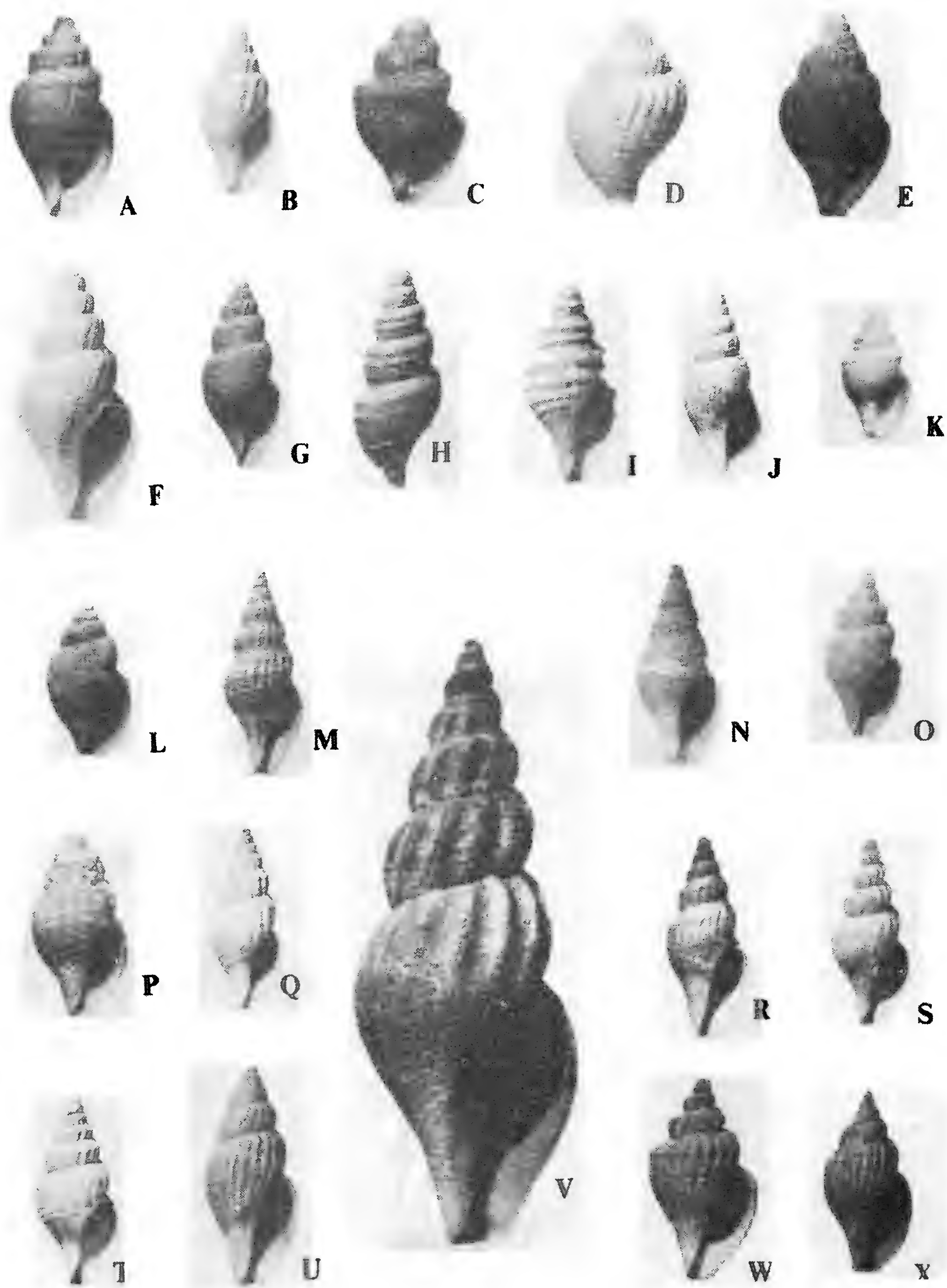


FIG. 137. A-B—*Curtitoma trevelli* (Turton, 1834), A—81°35'N, 75°57'E, depth of 225 m, 6.9 mm; B—69°00'N, 43°00'E, depth of 70 m, 10 mm; C—*C. novajasemljensis* (Leche, 1878), 76°38'N, 78°51'E, 62 m, 33 mm; D—*C. decussata* (Couthouy, 1839), 77°27'N, 86°15'E, depth 112 m, 5.9 mm; E—*C. lawrenciana* (Dall, 1919), Bering Island, depth 54 m, 7.1 mm; F-G—*C. conoidea* (G.O. Sars, 1878), F—78°31'N, 66°44'E, depth 385 m, 9.1 mm; G—77°10'N, 120°50'E, depth 220 m, 9.9 mm; H-K—*C. violacea* (Mighels et A. Adams, 1842), H—80°24'N, 52°10'E, depth 15 m, 7.6 mm; I—Japan Sea, Great Peter Bay, 170-210 m, 5.9 mm; J—Murmansk, depth 17 m, 10.6 mm; K—70°39'N, 53°42'E, depth 41 m, 7.1 mm; L—*Granotoma albrechti* (Krause, 1885), Okhotsk Sea, Lantar Cape, depth 62 m, 7 mm; M-N—*Oenopota (Oenopota) pyngelii* (Moeller, 1842), M—69°27'N, 32°24'E, depth 97 m, 10.7 mm; N—76°47'N, 117°24'E, depth 43 m, 10.4 mm; O—*Oe. (Oe.) obliqua* (G.O. Sars, 1878), 79°27'N, 76°40'E, depth 34 m, 8.7 mm; P-Q—*Oe. (Nodotoma) impressa* (Moersch, 1869), P—Okhotsk Sea, Sakhalin Island, depth 100 m, 6.4 mm; Q—Barents Sea, Iokan Island, depth 40 m, 14.1 mm; R—*Oe. (N.) cinerea* (Moeller, 1842), 69°37'N, 34°09'E, depth 230 m, 11.6 mm; S—*Oe. (N.) declivis* (Loven, 1846), Murmansk, depth 42 m, 9.6 mm; T—*Oe. (N.) elegans* (Moeller, 1842), Barents Sea, Ura-guba Bay, depth 204-219 m, 10.8 mm; U—*Oe. (N.) harpa* (Dall, 1884), Laptev Sea, depth 28-30 m, 17.0 mm; V—*Oe. (Oe.) pyramidalis* (Stroem, 1788) no date; W-X—*Oe. (N.) harpa* (Dall, 1884), W—77°16'N, 145°24'E, depth 45 m, 8.8 mm; X—(Dall, 1884), 69°20'N, 56°00'E, depth 18 m, 28 mm.

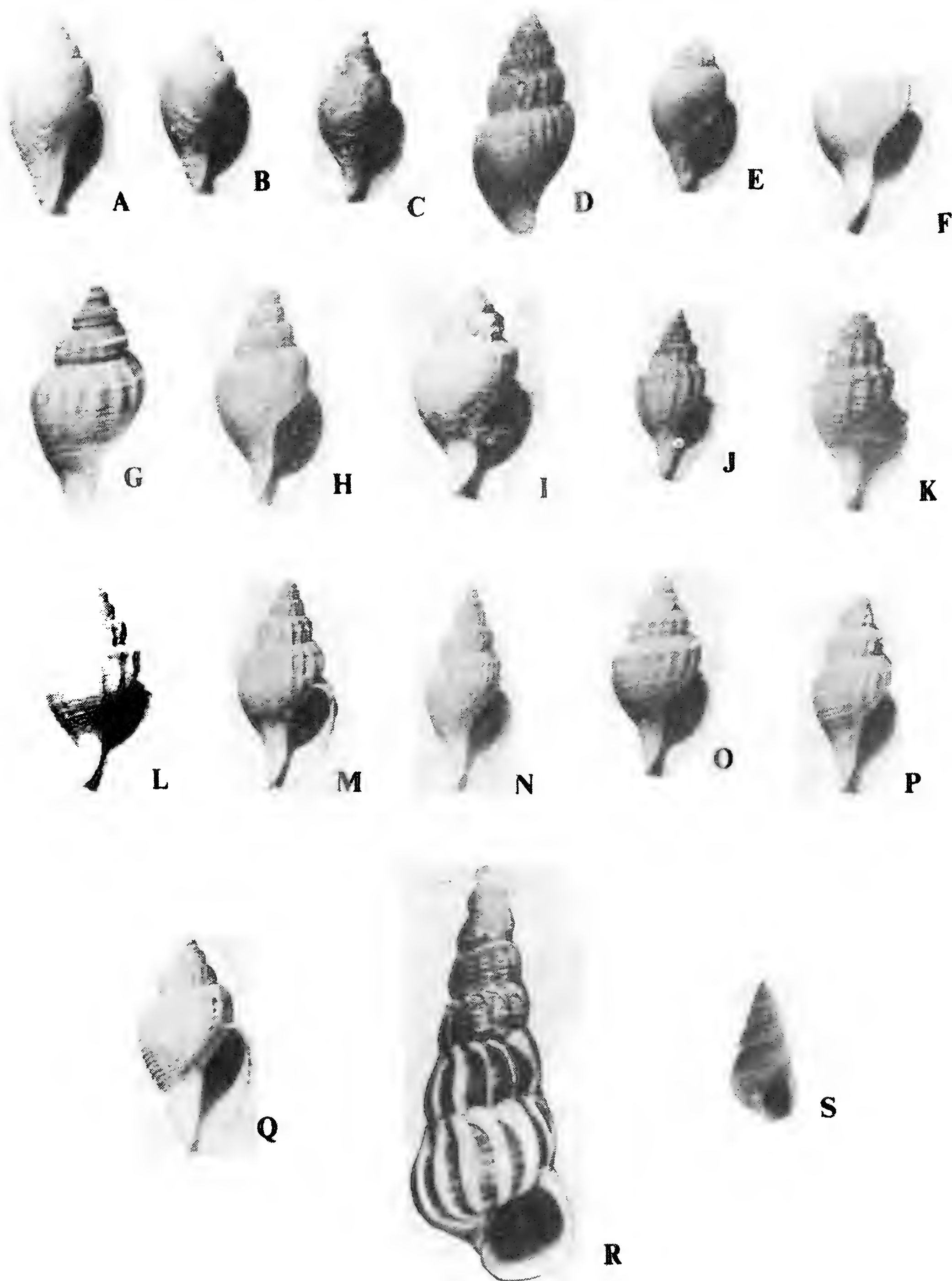


FIG. 138. A-B—*Obesotoma simplex* (Middendorff, 1849), A—Barents Sea, depth 6-10 m, 11.1 mm; B—Barents Sea, depth 6-10 m, 9.4 mm; C—*O. gigantea* (Moersch, 1869), Frantze Josef Land, Victoria Island, depth of 30-40 m, 13.6 mm; D—*O. schantarica* (Middendorff, 1849), Japan Sea, Great Peter Bay, depth of 5 m, 28 mm; E—*O. tenuilirata* (Dall, 1878), 55°42'N, 154°58'E, depth of 66 m, 9 mm; F—*O. woodiana* (Moeller, 1842), 68°28'N, 42°46'E, depth 59 m, 12 mm; G—*O. robusta* (Packard, 1867), 42°17'N, 131°11'E, depth of 925 m, 8.3 mm; H—*O. starobogatovi* Bogdanov, 1990, eastern part of the Kara Sea, depth 11.7 mm, 6.6 mm; I—*O. tumida* (Posselt et Jensen, 1898), 77°44'N, 145°32'E, depth 26 mm, 11.1 mm; J—*Propebela* (*Propebela*) *nobilis* (Moeller, 1842), 69°37'N, 33°04'E, depth of 310 m, 10.6 mm; K—*P. (P.) assimilis* (G.O. Sars, 1878), Eastern Kamcharka, 14 mm; L—*P. (P.) rugulata* (Moeller in Troschel, 1886), 77°57'N, 75°10'E, depth 310 m, 10.6 mm; M—*P. (P.) scalaris* (Moeller, 1842), 79°06'N, 74°44'E, depth of 307 m, 11.1 mm; N—*P. (P.) scalaroides* (G.O. Sars, 1878), Barents Sea, 26 mm; O—*P. (P.) harpularia* (Couthouy, 1838), Barents Sea, Kazarinov Bay, depth 9-17 m, 7.1 mm; P—*P. (Canetoma) fidicula* (Gouid, 1858), Wrangel Island, depth of 16 m, 11.5 mm; Q—*P. (C.) viridula* (Moeller, 1842), 73°15'N, 54°05'E, depth of 8 m, 11.3 mm; R—*Boreoscala groenlandica* (Moeller, 1842), Bering Sea, 32 mm; S—*Hemiaclis glabra* G.O. Sars, 1878, 71°11'N, 25°49.1'E, 5 mm.

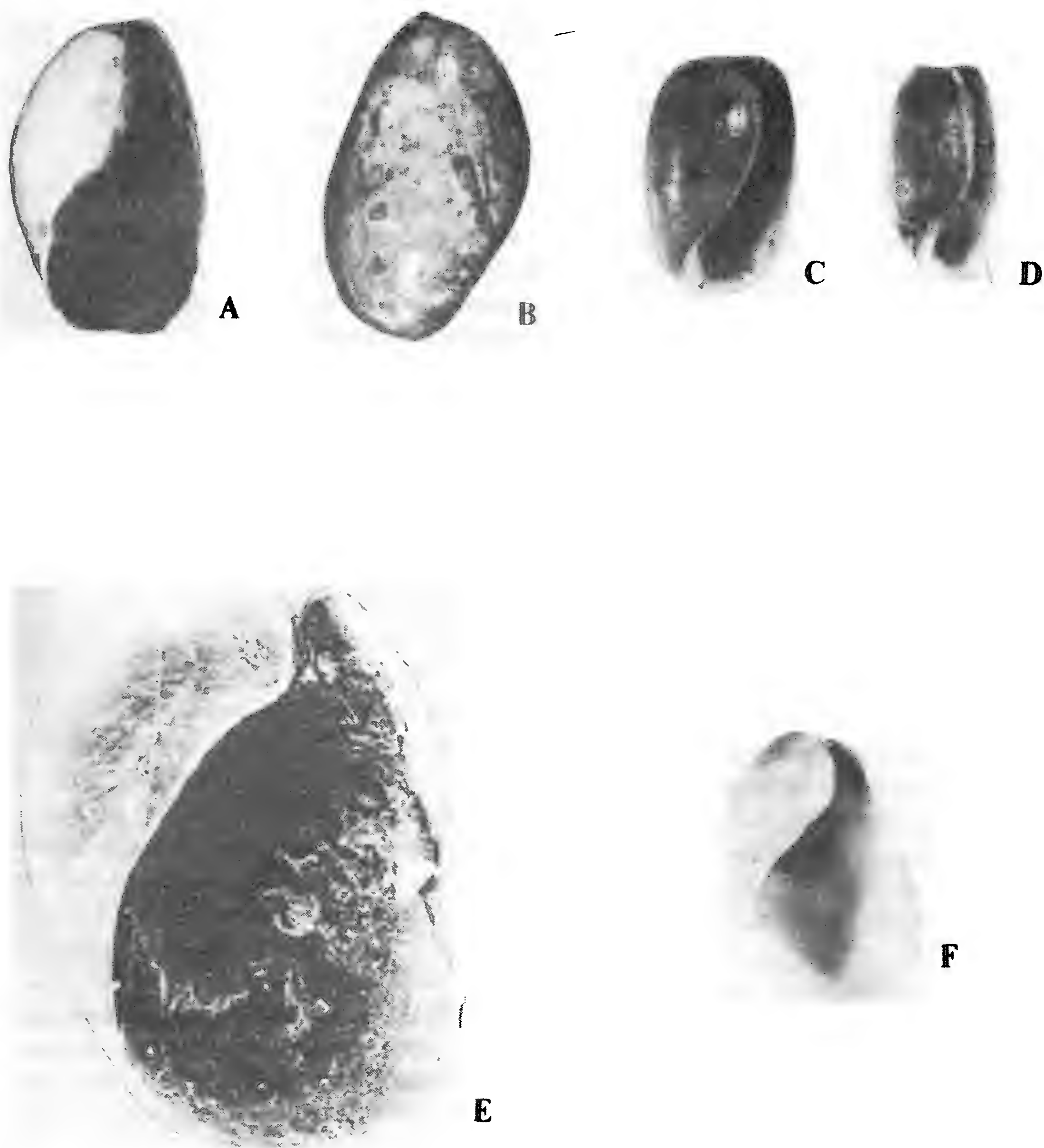


FIG. 139. A-B—*Scaphander punctostriatus* (Mighels, 1841), Norwegian Sea, 24 mm; C—*Cylichna occulta* (Mighels, 1841), no date, 10 mm; D—*C. alba* (Brown, 1827), Barents Sea, 10 mm, E—*Philine polaris* Aurivillius, 1887, no date, 2.3 mm; F—*Ph. finmarchica* G.O. Sars, 1878, no date, 11 mm.

BIBLIOGRAPHY

- Adams J., 1795. The specific characters of some minute shell discovered on the coast of Pembrokehire. *Trans. Linn. Soc.*, 3. 64-69 pp.
- Adams J., 1798. Descriptions of some minute British Shells. *Trans. Linn. Soc.*, 5. 1-16 pp.
- Aurivillius C.W.S., 1885. Oversigt ofver de af Vega-Expeditionen insamlade Arktiska Hafsmollusker. II. Placophora och Gastropoda. Extr. Vega Expeditionens Vetenskaplija Jakttagelser. Stockholm. 313-383 pp.
- Bean W., 1834. *Fusus turtoni* Bean and *Limnea lineata* Bean, two new and hitherto undescribed species of shell. *Mag. of Natural History*, 7. 493-499 pp.
- Bergh R., 1853. Bidrag til en monographi af Marseniaderne. *K. Dan. Vid. Selsk. Skr. R. S. Nat. Afd. Bd.3*. Kjobenhavn. 346 p.
- Bogdanov I.P., 1990. *The molluscs of subfamily Oenopotinae (Gastropoda, Pectinibranchia, Turridae) of the seas of USSR. Fauna SSSR*. Vol. V(3), Leningrad, Nauka. 221 p. (In Russian)
- Bouchet Ph., Waren A., 1985. Revision of the northeast Atlantic bathyal and abyssal Neogastropoda excluding Turridae (Mollusca, Gastropoda). *Bolletino Malacologico*, Suppl. 1. Milano. 296 p.
- Broderip W.J., 1830. Descriptions of two new species of *Buccinum* from the English and Irish seas. *Zool. Journ.*, 5. 44-46 pp.
- Broderip W.J., Sowerby G.W., 1829. Observations on new or interesting Mollusca contained, for the most part, in the Museum of the Zoological Society. *Zool. Journ.*, London, Vol. 4. 359-379 pp.
- Brogger W.C., 1900-1901. Om de senglaciale og posglaciale nivaforandringer i Kristianifeltet. *Norges. Geol. Undersogelse*, 31. Kristiania. S. 1-731.
- Brown Th., 1827. Illustrations of the recent Conchology of Great Britain and Ireland. Edinburg. 144 p.
- Bruguière M., 1789-1792. Encyclopédie Méthodique. Histoire Naturelle des Vers. Paris. 259 p.
- Collin I., 1886. Brachiopoder, Muslinger og Snegle fra Kara-Havet. *Dijmphna-Togtets Zool.-botan. Udbytte*, 7. Kjobenhavn. S. 441-472.
- Couthouy J.P., 1838. Descriptions of new species of Mollusca and shells and remarks on several polypi found in Massachusetts Bay. *Bost. Journ. Nat. Hist.*, Vol. 2, N 1. 53-111 pp.
- Couthouy J.P., 1839. Monograph on the family *Osteodermacea* of Deshayes, with remarks on two species of *Patelloidea* and description of new species of marine shells a species of *Auculotus* and one of *Eolis*. *Bost. Journ. Nat. Hist.*, Vol. 2, N 2. 129-189 pp.
- Dall W.H., 1871. Description of sixty new forms of molluscs from the west coast of North Pacific ocean, with notes on others already described. *Amer. J. Conch.*, Vol. 7, N 2, 13-16 pl., 93-160 pp.
- Dall W.H., 1873. Preliminary descriptions of new species of Mollusca from the coast of Alaska with notes on some rare forms. *Proc. Calif. Acad. Sci.*, Vol. 5. 57-62 pp.
- Dall W.H., 1877. Preliminary descriptions of new species of Mollusca from the North-West coast of America. *Proc. Calif. Acad. Sci.*, Vol. 7. 1-7 pp.
- Dall W.H., 1884. Report on the Mollusca of the Commander Islands, Bering Sea, collected by Leonardo Steineger in 1882 and 1883. *Proc. U. S. Nat. Mus.*, Vol. 7. 340-349 pp.
- Dall W.H., 1885. Report on the Molluscs. In: *Report of the International Polar Expedition to Point Barrow, Alaska*. Washington. 177-184 pp.
- Dall W.H., 1886. Report on Bering Island Mollusca collected by Mr. Nicholas Grebtitzki. *Proc. U. S. Nat. Mus.*, Vol. 9. 209-219 pp.
- Dall W.H., 1889. Scientific results of explorations by steamer "Albatross", VII. Preliminary report on the collection of Mollusca and Brachiopoda obtained in 1887-1888. *Proc. U. S. Nat. Mus.*, Vol. 12. 219-362 pp.
- Dall W.H., 1891. On some new of interesting west American shells obtained from the dredgings of the US First Commission steamer "Albatross" in 1888, and from other sources. *Proc. U. S. Nat. Mus.*, Vol. 14. 173-191 pp.
- Dall W. H., 1895. Report on Mollusca and Brachiopoda dredged in deep water, chiefly near the Hawaiian Islands, with illustrations of hitherto unfigured species from North-west America. *Proc. U. S. Nat. Mus.*, Vol. 17, 675-733 pp.
- Dall W. H., 1902. Illustrations and descriptions of new, unfigured, or imperfectly known shells, chiefly American, in the U. S. National Museum. *Proc. U. S. Nat. Mus.*, Vol. 24. 499-566 pp.

- Dall W. H., 1907. Descriptions of new species of shells, chiefly *Buccinidae*, from the dredgings U. S. S. "Albatross" during 1906, in the North-west Pacific, Bering, Okhotsk and Japanese seas. *Smith. Mis. Coll.*, Vol. 50. 139-173 pp.
- Dall W. H., 1919. Descriptions of the new species of Mollusca from the North Pacific Ocean in the collection of the U.S. National Museum. *Proc. U. S. Nat. Mus.*, Vol. 56: 293-371.
- Dall W. H., 1921. Summary of the marine shell-bearing molluscs of the northwest coast of America, from San-Diego, California, to the Polar Sea, mostly contained in the collection of the United States National Museum, with illustrations of hitherto unfigured species. *Smith. Inst. U. S. Nat. Mus. Bull.*, Vol. 112, 1-217 pp.
- Dall W. H., 1925. Illustrations of unfigured types of shells in the collection of the United States National Museum. *Proc. U. S. Nat. Mus.*, Vol. 66, 1-41 pp.
- Dautzenberg P., Fisher H., 1911. Mollusques et Brachiopodes recueillis en 1908 par la Mission Benard dans les mers du Nord (Nouvelle Zemble, mer de Barentz, mer Blanche, océan Glacial, Norvège, Mer du Nord). *Journ. Conchyl.*, Vol. 59, 1-51 pp.
- Dautzenberg P., Fisher H., 1912. Mollusques provenant des campagnes de l'Hirondelle et de la Princesse Alice dans les mers du Nord. *Res. Camp. Sci. Albert I de Monaco*, 37. 1-629 pp.
- Derjugyn K.M., 1937. New data on systematics, morphology and biogeography of the molluscs of the genus *Onchidiopsis*. *Uchenye zapiski LGU*, Vol. 15(3). 7-31 pp. (In Russian)
- Derjugyn K.M., 1950. New data on systematics, morphology and biogeography of the molluscs of the genus *Velutina* Flem. (Mollusca, Gastropoda, Lamellariidae). *Issledovanija dal'nevostochnykh morey SSSR*, (2). 7-27 pp. (In Russian)
- Deshayes G.P., 1832. *Encyclopedie methodique: Histoire naturelle des Vers*. Paris. Vol. 2. 145-594 pp.
- Dunker W., Metzger R., 1874. Drei neue Meeres-conchylien der norwegischen Fauna. *Nachrichtsblatt der Deutschen Malacozoologischen Gessellschaft*. Vol. 1. 146-151 S.
- Fabricius O., 1780. *Fauna Groenlandica*. Hafniae et Lipsia. 452 p.
- Fleming J., 1832. Remarks on the Genus *Scissurella* of M. d'Orbigny, with a description of a recent British species. *Mem. wern. Nat. Hist. Soc.* Vol. 6. 384-387 pp.
- Forbes E., Hanley S., 1850. A history of British Mollusca. Vol. 3. 616 p.
- Forbes E., Hanley S., 1853. A history of British Mollusca and their shells. Van Voorst, London. 302 p.
- Friele H., 1876. Bidrag til Vestlandets Molluskfauna. *Christ. Vidensk. selsk. Forh.* 60 S.
- Friele H., 1877. Preliminary report on Mollusca from the Norwegian Atlantic expedition. *N. Mag. f. Naturv.* Christiania, Bd. 23, H. 3. 1-10 pp.
- Friele H., 1878. Jan Mayen Mollusca from the Norwegian North-Atlantic Expedition in 1877. *Nyt. Mag. f. Naturv.* Christiania, Bd. 24, H. 3. 221-226 pp.
- Friele H., 1879. Catalog der auf der norwegischen Nordmeer-Expedition bei Spitzbergen gefundenen Mollusken. *Jahrb. Deutsch. Malakozool. Ges.* VI. 264-286 S.
- Friele H., 1882. The Norwegian North-Atlantic expedition 1876-1878. Mollusca, I. *Buccinidae*. Christiania. 1-38 p.
- Friele H., 1886. The Norwegian North-Atlantic expedition 1876-1878. Zoology. Mollusca, II. Christiania. 1-44 p.
- Friele H., Grieg G., 1901. The Norwegian North-Atlantic expedition 1876-1878. Mollusca, III. Christiania. 1-131 p.
- Galkin Yu.I., 1955. The gastropod molluscs trochidae of the Far-Eastern and Northern seas of USSR (family *Trochidae*). *Opredeliteli po faune SSSR, izdavaemye Zoologicheskim Institutom AN SSSR*. Vol. 57. 132 p.
- Gmelin J.F., 1790. Caroli a Linne, *Systema Naturae*, ed. 13. Lugduni, 1, pars 3, Vermes. Lipsiae. 3021-4120 pp., Mollusca, 3099-3799 pp.
- Golikov A.N., 1963. The gastropod mollusca of the genus *Neptunea* Bolten. *Fauna SSSR, Molluscs*, Vol. 5(1). Moscow-Leningrad, Izdatel'stvo AN SSSR. 183 p. (In Russian)
- Golikov A.N., 1980. The molluscs *Buccininae* of the World Ocean. *Fauna SSSR, Molluscs*, Vol. 5(2), Leningrad, Nauka. 508 p. (In Russian)
- Golikov A.N., 1986a. On systematics and evolution of gastropods of the family *Turritellidae* from the cold and temperate waters of the Northern Hemisphere. *Zoologicheskij Zhurnal*, Vol. 65(8). 1140-1150 pp. (In Russian)
- Golikov A.N., 1986b. New species of gastropod molluscs of suborder *Rissoidei*. *Trudy ZIN AN SSSR*, Vol. 149. 86-89 pp. (In Russian)

- Golikov A.N., 1986c. The gastropod molluscs of the family *Trichotropidae* from the temperate and cold waters of the Northern Hemisphere. *Trudy ZIN AN SSSR*, Vol. 152. 11-29 pp. (In Russian)
- Golikov A.N., 1987. Gastropoda. In: *The molluscs of White Sea. Operedeliteli po faune SSSR, izdavaemye Zoologitsheskim Institutom AN SSSR*. Vol. 151. Leningrad, Nauka: 41-140. (In Russian).
- Golikov A.N., 1988. The gastropod molluscs of the order *Cerithiiformes* from the Arctic Ocean and temperate waters of the North-Western part of the Pacific ocean. *Zoologitsheskij Zhurnal*, Vol. 11(4). 495-505 pp. (In Russian)
- Golikov A., Gulbin V., 1977. The prosobranch gastropod molluscs of shelf of the Kurile Islands, II. In *Fauna pribrezhnykh zon Kuril'skikh ostrovov*. Moscow, Nauka. 172-268 pp. (In Russian).
- Golikov A.N., Kussakin O.G., 1978. The gastropod molluscs from the littoral of the seas of USSR. *Opredeliteli po faune SSSR, izdavaemye Zoologitsheskim Institutom AN SSSR*. Vol. 116. Leningrad, Nauka. 256 p. (In Russian)
- Golikov A.N., Sirenko B.I., 1988. The Naticid Gastropods in the boreal waters of the Western Pacific and Arctic Ocean. *Malacological Review*, Vol. 21. 1-41 pp.
- Golikov A.N., Scarlato O.A., 1977. Composition, distribution and ecology of the gastropod and bivalve molluscs of Frantz Josef Land. *Issledovaniya fauny morey*, Vol. 14(22). 313-390 pp. (In Russian)
- Gould A.A., 1840. Description on 13 new species of shell. *Amer. J. Sci. Arts*, Vol. 38. 196-197 pp.
- Gould A.A., 1841. A report on the invertebrata of Massachusetts. Cambridge. 373 p.
- Gould A.A., (1849) 1850. Description of the new species. *Proc. Bost. Soc. Nat. Hist.*, Vol. 3. 136-145 pp.
- Gould A.A., 1860. Description of new shells collected by the North Pacific exploring expedition. *Proc. Bost. Soc. Nat. Hist.*, Vol. 7. 323-340 pp.
- Gray J.E., 1824. Supplement to the Appendix to Parry's first Voyage (Analytical notice). *Zool. J.*, Vol. 1. 117-120 pp.
- Gray J.E., 1839. Molluskous animals and their shells. The zoology of captain Belchey's voyage. London. 101-155 pp.
- Habe T., Ito K., 1965. *Shells of the world in color. Vol. 1. The Northern Pacific*. Osaka, Japan. 176 p.
- Hancock A., 1846. A list of shells dredged on the West coast of Davis's Strait; with notes and descriptions of eight new species. *Ann. Mag. Nat. Hist.*, ser. 1, Vol. 18. 323-338 pp.
- Jay J.C., 1839. A catalogue of the shells arranged according to the Lamarckian system. New York. 126 p.
- Jeffreys J.G., 1867. British conchology, or an account of the mollusca which now inhabit the British Isles and the surrounding seas. Marine shells, in continuation of the Gastropoda as far as the Bulla family. Vol. 4. London. 486 p.
- Jeffreys J.G., 1877. New and peculiar mollusca of the Patellidae and other families of Gastropoda procured in the Valorous Expedition. *Ann. Mag. Nat. Hist.*, Vol. 4(19). 231-243 pp.
- Jeffreys J.G., 1883. Notes on the Mollusca in the Great International Fisheries exhibition, London 1883, with the description of new species of *Pleurotoma*. *Ann. Mag. Nat. Hist.*, ser. 5, Vol. 12. 116-120 pp.
- Kantor Yu.I., 1990. The gastropod molluscs of the subfamily *Volutopsiinae* of the World Ocean. Moscow, Nauka. 178 p. (In Russian)
- King W., 1846. An account of some shells and other invertebrate forms found on the coast of Northumberland and of Durham. *Ann. Mag. Nat. Hist.*, Vol. 18. 233-251 pp.
- Kobelt W., 1876. Beitrage zur Arktischen Fauna. *Jahrb. Deutsch. Malakozool. Ges.*, Bd. 3. 61-180 pp.
- Kobelt W., 1878. Illustriertes Conchylien buch. Nurnberg. 143 S.
- Krause A., 1885. Ein Beitrag zur Kenntniss der Mollusken-Fauna des Beringmeeres. II. Gastropoda und Pteropoda. *Archiv Naturgesch.*, Jahrb. 51, Bd. 1. 256-302 S.
- Leche W., 1878. Ofversigt ofver de af svenska expeditionerna till Novaja Semlja och Jenissej 1875 och 1876 insamlade hafsmollusker. *Kongl. Vetenskaps-Akad. Handl.*, Vol. 16(2). 1-86 pp.
- Linnaeus C., 1758. *Systema naturae. Regnum Animale*, edit. decima, I. Lipsiae. 1-823 pp.
- Linne C., 1767. *Systema naturae editio duodecima reformata*, I, pars II, Classis VI, Vermes. Holmiae. 33-1327 pp.

- Linne C., 1771. *Mantissa Plantarum altera generum ed. IV, spec. ed. II, app. Vermes testacea. Holmiae.* 344-352 pp.
- Loven S., 1846. *Index Molluscorum litora Scandinaviae occidentalia habitatum. Ofversigtaf. K. vet. Akad. Forh.*, 11-12 pp.
- MacGinitie N., 1959. Marine mollusca of Point Barrow, Alaska. *Proc. U. S. Nat. Mus.*, Vol. 109(3412). 59-208 pp.
- Macpherson E., 1971. The marine Molluscs of Arctic Canada. *Publ. Biol. Oceanol.*, Vol. 3, Ottawa. 1-149 pp.
- Matweeva T.A., 1974. Ecology and live-cycles of the mass species of the gastropod molluscs of the Barentz and White Seas. *Issledovaniya fauny morey*, Vol. 13(21). 65-190 pp. (In Russian)
- Martyn T., 1845. Le conchyliologiste universel de figures des coquilles, 1784, t. 2. In: *Chenu. Bibliotheque conchyliologique*, Ed. 2. Paris. 1-56 pp.
- Middendorff A.T., 1848. Vorlaufige Anzeige einiger neuer Konchylien aus Geschlechtern: *Littorina*, *Tritonium*, *Bullia*, *Natica* und *Margarita*. *Bull. classe phys.-mat. Acad Imp. Sci.*, 7(16). SPb. 242-249 S.
- Middendorff A.T., 1849. Aufzählung und Beschreibung der zur Meeresfauna Russlands gehorigen Einschaler. Beitrage zu einer Malacozootologia Rossica, 2. *Mem. Acad. Sci.*, 6. SPb. 1875 S.
- Mighels J.W., 1841. The description of new species of Molluscs. *Proc. Boston Soc. Nat. Hist.*, Vol. 1. 50-129 pp.
- Mighels J.W., 1843. Catalogue of the Marine, Fluvial and Terrestrial shells of the State Maine and adjacent ocean. *Boston J. Nat. Hist.*, Vol. 4(3). 312-344 pp.
- Mighels J.W., Adams C.B., 1842. Description of twenty four species of shells of New England. *Boston J. Nat. Hist.*, Vol. 4. 37-54 pp.
- Mohr N., 1786. Forsog til en Islandsk naturhistorie. Kjobenhavn, C.F. Holm. 414 p.
- Moeller H.P.C., 1842. Index Molluscorum Groenlandiae. *Nat. Tidskr.*, Kjobenhavn, Bd. 4. 1-24 pp.
- Montagu G., 1803. *Testacea Britannica or Natural History of British Shells. Marine, Land and Fresh-water.* London, 606 pp.
- Moerch O.A.L., 1857. Fertegnelse over Gronlands Bloddyr. In: H. Rink's *Prodromus Molluscorum Groenlandica*. Kjobenhavn. 1-75 pp.
- Moskalev L.I., 1964. The distribution of Acmaeidae (Gastropoda, Prosobranchia) in the Northern part of the Pacific Ocean. *Doklady AN SSSR*, Vol. 158(5). 1221-1222 pp. (In Russian)
- Mueller O.F., 1776. *Zoologiadanicae Prodromus seu Animalium Daniae et Norvegiae indigenarum Characteres, nomina et synonyma imprimis popularium Havniac.* 237-282 pp.
- Odhner N., 1913. Northern and arctic invertebrates in the collection of the Swedish state Museum. IV. Prosobranchia a. Semiproboscifera. *Kungl. Svenska Vetensk. Akad. Handl.*, 50(5). 3-89 pp.
- Olivi G., 1792. *Zoologia Adriatica*. Bassano. 1-334 pp.
- Packard A.S., 1867. Observations on the glacial phenomena of Labrador and Maine with a view of the recent invertebrate fauna of Labrador. *Mem. Boston Soc. Nat. Hist.*, Vol. 1. 210-303 pp.
- Pennant T., 1777. *British Zoology*. IV. Crustacea, Mollusca Testacea. London. 148 p.
- Pfeffer G., 1886. Mollusken, Krebs und Echinodermen von Cumberland sound nach der ausbeute der deutschen Nordexpedition 1882 und 1883. *Jahrb. Hamburg Wiss. Anst.*, Bd. 3. 25-43 pp.
- Pilsbry H.A., 1907. New and little known Whelks from northern Japan and the Kurile Islands. *Proc. Acad. Nat. Hist. Philad.*, Vol. 59(1). 243-246 pp.
- Philippi R.A., 1841. Zoologische Bemerkungen. *Arch. Naturg.*, 1. 42-59 pp.
- Philippi R.A., 1849. Centura tertia Testaceorum novorum. *Zietsch. f. Malakozool.*, N 11, Cassel. 161-176 S.
- Philippi R.A., 1850. Abbildungen und Beschreibungen neuer oder wenig gekannter Conchylien. Cassel, N 3. 138 S.
- Phipps C.J., 1773. A voyage towards the North Pole undertaken by His Majesty's command 1773. London. 253 p.
- Posselt H.J., Jensen A.S., 1898. Gronlands Brachiopoda og Bloddyr. In: *Conspectus Faune Groenlandicae. Med. om Groenland*, Vol. 19. 298 p.
- Reeve L. A., 1845. *Conchologia Iconica or illustrations of the shells of molluscos animals* (fortges. van. G.B. Sowerby). London. Vd. 3. 150 p.
- Reeve L. A., 1847. *Conchologia Iconica or illustrations of the shells of molluscos animals.*

- Monograph of the genus *Fusus*. London. Vd. 4. 139-165.
- Sacchi C.F., Rastelli M., 1966. *Littorina mariae* nov. sp.: les differences morphologiques et ecologiques entre "nains" et "normaux" chez l'espece *L. obtusata* (L.) (Gastropoda, Prosobranchia) et leur signification adaptive et evolutive. *Atti Soc. Ital. Sci. Nat.*, Vol. 105(4). 351-370 pp.
- Sars G.O., 1878. Mollusca regions arcticae Norvegiae. Bidrag til Kundskaben om Norges Arktiske Fauna. t. 1. Christiania. 466 p.
- Sars M., 1851. Beretning om en i Sommeren 1849 foretagen zoologisk Reise i Lofoten og Finmarken. *Nyt. Mag. Naturvid.*, Vol. 6(2). 1(121)-90(211) pp.
- Smith J., 1839. On the last changes in the relatively levels of the land and sea... *J. Mem. Wern. Nat. Hist. Soc.*, Vol. 8(1). Edinburgh. 49-113 pp.
- Smith S.M., 1982. A review of the genus *Littorina* in British and Atlantic waters (Gastropoda, Prosobranchia). *Malacologia*, Vol. 22(1-2). 535-539 pp.
- Sowerby G.B., 1825. A catalog of the shells in collection of the Earl of Tankerville, with an appendix describing new species. London. 92 p.
- Stearns R.E., 1873. Description of new marine shells from the west coast of North America. *Proc. Calif. Acad. Sci.*, Vol. 5. 78-82 pp.
- Stimpson W., 1851. Shells of New England, a revision of the Synonymy of the Testaceous Mollusks of New England. Boston. 58 p.
- Stimpson W., 1865. Review of the northern Buccinums. *Canadian Natur.*, October, Vol. 2(5). 371 p.
- Stroem H., 1768. Beskrivelse over Norske Insecter. Andet Stykke. *Det. Kongelige Norske Videnskabers Selskabs i Trondheims Skrifter*, Bd. 4. Kjobenhavn. 313-371 S.
- Stroem H., 1788. Beskrivelse over Norske Insecter, pt. 5. *Kongl. Danske Vidensk. Selsk. Skrift.*, Bd. 3. Kjobenhavn. 296-297 S.
- Thiele J., 1928. Arktische Loricaten, Gastropoden, Scaphopoden und Bivalven. *Fauna Arctica*, Bd. 5(2). Jena. 563-632 S.
- Thorson G., 1941. Marine Gastropoda, Prosobranchiata. *Zoology of Iseland*, 60. 150 p.
- Thorson G., 1944. The Zoology of East Greenland Marine Gastropoda Prosobranchiata. *Meddelelser om Groenland*, 121(13). 181 p.
- Thorson G., 1951. *Scaphopoda, Placophora, Solenogastres, Gastropoda, Prosobranchiata, Lamellibranchiata*. The Godthaab Expedition 1928. *Meddelelser om Groenland*. 81(2). 1-177 pp.
- Troschel F.H., 1866. Das Gebiss der Schnecken. Berlin, Bd. 2. 48 S.
- Tryon G.W., 1881. *Manual of Conchology*. III. Philadelphia—London. 4-310 pp.
- Turton W., 1825. Descriptions of some new British shells. *Zool. Journ*, Vol. 2. 361-367 pp.
- Turton W., 1834. Descriptions of some non descript and rare British species of shells. *Mag. Nat. Hist.*, Vol. 7. London. 350-353 pp.
- Verrill A.E., 1880. Notice of recent additions to the marine invertebrata of the North-eastern coast of America with descriptions of new genera and species and original remarks on others. *Proc. U. S. Nat. Mus.*, Vol. 3. 358-405 pp.
- Verrill A.E., 1882. Catalogue of marine mollusca added to the fauna of New England during the past ten years. *Trans. Conn. Acad.*, Vol. 5(2). 447-588 pp.
- Verkruezen T.A., 1875. Bericht ueber einen Schabe-Ausflug im Somme 1874. *Jahrb. Deutsch. Malacol. Gesellsch.*, Jahrb. 2. 229-240 S.
- Waller E., 1864. On a new British species of *Rissoa*. *Ann. Mag. Nat. Hist.*, ser. 3, Vol. 14. 136-188 pp.
- Wood S., 1839. On the fossil shells of the crag. *Magazine of natural history*, ser. I, Vol. 3. 461-465 pp.
- Wood S., 1848. *A monograph of the Crag Mollusca. I. Univalves*. London. 150 p.

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